Gleanings in Bee Culture

March, 1958 Vol 86, No. 3

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86 years continuous publication by the same organization.

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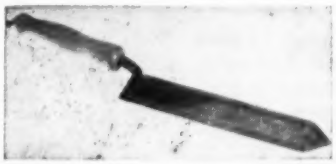

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Monthly HONEY Report

WALTER BARTH, Field Editor

UNSEASONABLE WEATHER seems to be the story in many parts of the country. In northern New York, where snow is king, the winter has brought mostly rains. Now the ground is well saturated but bare and there is great concern about clovers heaving. Here, as in Pennsylvania and parts of New England, the honey plant outlook is worrisome. More moisture would still be very welcome in New England.

In New York, Pennsylvania, and New England the five-pound pail retails from $1.35 to $1.40. A slight price recession is reported in this area but it is interesting to note that the strong, amber buckwheat honey is selling for the same price as clover. Buckwheat honey must be scarce this season.

Along the Great Lakes States the bees are generally wintering well. There is plenty of moisture in the ground, the honey plants are in fine condition, and the market is fair. Not a bad outlook for this time of year.

In Minnesota and Wisconsin the ground is nearly bare in many areas and that may have a bad effect on legumes. Some mild weather has permitted a few cleansing flights. Retail demand for honey varies from fair to good. On the other hand, packers are not hard pressed for honey so that movement of bulk honey at the producer's level is slow.

In South Dakota, temperatures have been moderate with frequent opportunities for flights. Snowfall has been light. Kansas reports that the snowfall in that state is about 50 percent below average. Their first snowfall of the season, approximately two inches, came on December 30th.

Another open winter is reported from Wyoming where bees are wintering well with frequent flights. The weather has been cold, open, and has brought little snow to date.

Over on the west coast in Oregon the winter has been mild. Bees have brought in some pollen from filberts. Colonies have wintered well so far. Those beekeepers selling directly to grocers find the market steady. The wholesale market is sluggish with the price much the same as it was last year at this time. Cold weather and frosts in the southern states will delay bee shipments.

The most interesting marketing news comes from California where the California State Beekeepers' Association proposed the following honey marketing legislation of national interest.

1. Re-establish an export subsidy on honey;
2. Establish a honey import quota based on imports of the last ten years;
3. Request an increase in honey support prices with the same price level throughout the United States.

Since California is such a large and varied honey producer, the progress of these proposals will be interesting.

On the national picture there seems to be a slight depression in honey prices. The retail market remains fairly stable but the wholesale market is sluggish. Apparently there is plenty of honey available, and processors, therefore, have no intention of maintaining a large inventory under such conditions. Some price cutting has been reported in Oregon but mostly on dark honey.

After a sudden drop, the beeswax market is quiet with sale's prices running around 54 cents more or less. Two cents extra is generally allowed in trade. The possibility of another drop of from one to five cents per pound cannot be overlooked..

Our Cover

HER ROYAL HIGHNESS, the queen, the soul of the colony, is surrounded by her faithful retinue of worker bees.—Photo by Harald Doering, Kirchseeon (Obb.) Spannleitenberg.

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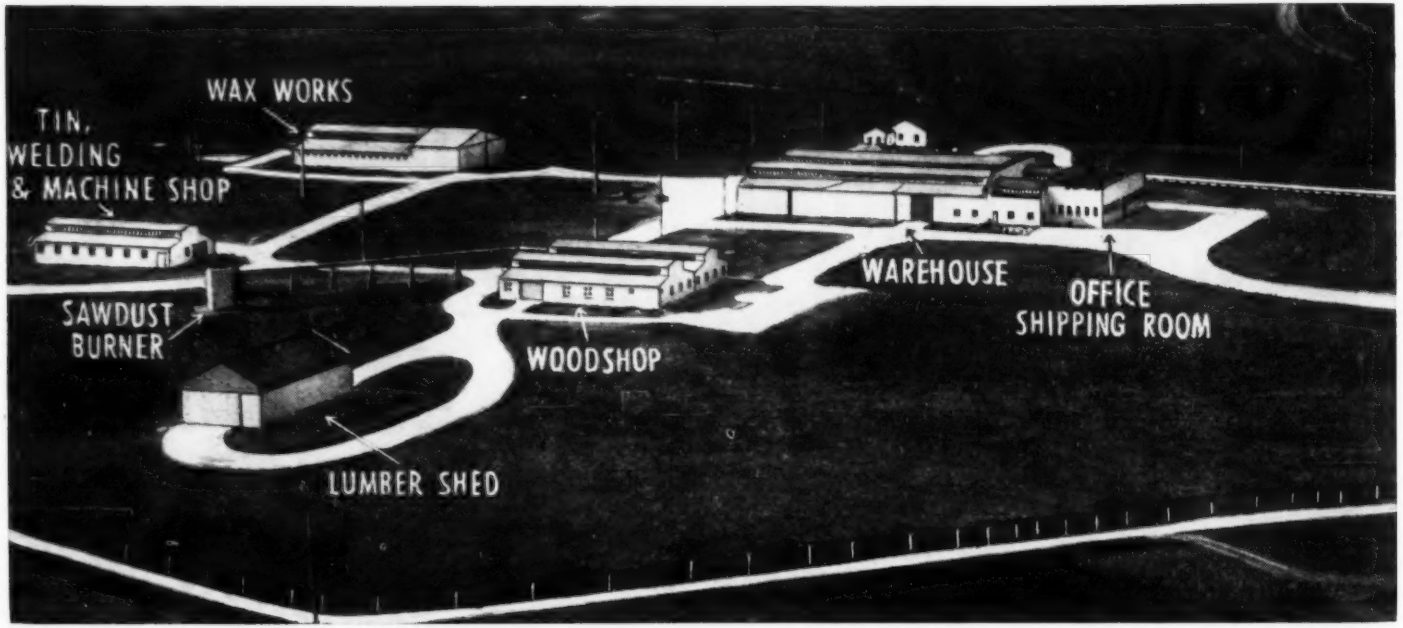

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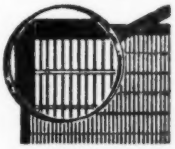

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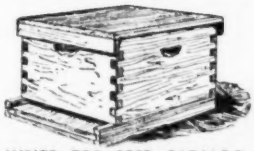

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WHEELING, WEST VIRGINIA

Lorain County, Ohio, Trains Beekeepers of Tomorrow

by HARRY L. VANDENBERG, La Grange, Ohio

WHEN I FIRST proposed the sponsoring of a 4-H Beekeeping Club to the members of our beekeepers' association, I met with little enthusiasm. However, this did not discourage me much, since about 10 years earlier I had proposed an annual beekeepers' field day, where we would have demonstrations of all phases of beekeeping and related subjects. This met opposition, and was turned down. A year later I came again, this time better prepared, and my proposal was accepted. This field day is still the outstanding event of our yearly program.

So-o-o- when another year rolled around, and a 4-H beekeeping club was again proposed, by yours truly, he was better prepared. In a talk with the County Extension Agent, it was apparent he had gained a good deal of useful information about 4-H. This time the group agreed to go along, and a 4-H beekeeping club was born.

Actual organization was next and the first requirement of a sponsoring organization is to have some responsible person serve as advisor. Here again we had difficulty. Everybody was willing to help, but no one would take the

Here is a picture snapped by Jack Deyell of the Lorain County 4-H group. Back row, left to right: Earl Gould, Matthias Monschein, George Roser, Kenneth Linick, Bruce McAlpin, Harold Butcher, Donald Spice, Anthony Musial; front row, left to right: Frank Herrmann, Adelbert Schuster (Advisor) Harry J. Vandenberg, and Myron Cotterman.

responsibility and be an advisor. Two men expressed a willingness, but did not think they were capable. This was solved when I told them that if they would sign up as advisors, so would I. So, our club had a good start with not one, but three, advisors.

Next we needed boys for the club, and here is where our county agent again entered the picture. He proposed an article be put in the local paper, inviting boys from 10 to 21 interested in beekeeping to attend an organizational meeting. Letters were also sent through the facilities of his office to a list of boys and men furnished by the bee inspector. One of the advisors had a boy of his own, another member had a neighbor boy who was interested.

Well, around May 1, it seemed we were all set. Our club was formed; we had ten boys. Project books were furnished by the Extension Office. The boys were anxious to start and so were the advisors.

Right here, I wish to tell about two things that happened. Our county beekeepers' association each year sets up a huge honey display at the county fair and receives for this from the fair board a premium of $50.00. When you speak to the county fair board, "4-H" seems to be a magic word. And, when these men were asked to increase the premium $25.00, this money to be used for 4-H, the request was granted, just like that. It is amazing how these fair people respond when they hear the words "4-H".

The other thing that happened was that the manager of the local Farm Bureau heard of our project. He offered, after we got well under way, to take the group to a large apiary, then treat them to a full course dinner, and thereafter to a tour through a bee supply manufacturing plant.

He kept his word and the Farm Bureau footed the bill, including the gasoline for the cars.

Now, let me tell you how these boys obtained their bees.

Bruce's grandfather had a few hives of bees, but the old man moved away and left the bees on the place. This was an opportunity for Bruce, who was interested in all living things from guppies to insects. He was very eager to join the 4-H Club and his parents bought him a super, 10 frames, foundation, and a complete comb honey super.

Late that summer he sold all the comb and extracted honey he could produce.

When I met Butch walking down the road one day and asked him where he was going, he told me Earl and he were going down to the neighbors' woods and hunt some bee trees. By listening to, and observing the flight of bees, they found two. One colony was in a large hollow limb high up in a tree. They obtained permission to cut the trees. Lugging an extension ladder, saw, two beehives, smoker, etc., for about a half mile didn't stop them. It was not till evening that they transferred and smoked the bees into the hives. Yes, they did get stung some. Butch and Earl now know never to transfer bees late in the evening. News got around that they were in the bee business and people told them whenever they heard of, or saw, a swarm of bees. Earl and Butch now have eight hives.

Nature set the stage for Matt. One day his mother saw a large cluster of insects on a pine tree in their front yard. She told Matt. When he approached close he knew they were bees. He bought a hive and assembled it with the help of a beekeeper friend. Together they hived the bees. The colony built up fast and a queen excluder and another super were added. Last fall Matt had a super of honey to take off.

With Kenneth it was easier. He had three hives of bees, but it seemed when he joined the 4-H Club he took a new interest in bees and really worked with them. Last fall he called me and asked if I knew someone who would buy 180 pounds of strained honey.

For George things were easy; his father was a part-time beekeeper, who is one of the advisors. George had often worked the bees with his father. He was given the complete control of two hives of bees.

Norm received a complete hive of bees from a beekeeping friend, and is already planning to obtain another.

In July the 4-H Demonstrations were held and all active members in our club participated and their demonstration was the assembling of a complete bee

hive. The boys worked in pairs, one boy doing the actual work, like nailing and wiring of a frame, and the other boy explaining to the audience what he was doing and the purpose of it.

All the boys I mentioned in this article, completed their project, set up a display at the Junior Fair, exhibited their honey, and all received an A grade.

We had a lot of help with our project from the Extension Office. My hat is off to both the extension office and the fair people for their genuine interest in young people.

When I met the county agent last fall, he asked me to explain how these boys got an "A" grade for a "Bee" project.

For the benefit of you whose idea of a County Extension Agent is rather vague, let me explain. A county agent is an employee of a land grant college (in Ohio, Ohio State University). He must have a college degree, is assigned to a county, and paid by the college. Funds come from the State and Federal governments. This may differ somewhat in different states. In some states farm organizations put in some money. His job is to convey to all people information pertaining to agriculture and home economics.

The county sets up, through the county commissioners, an annual appropriation, which includes office rent, furniture, secretarial help, office supplies, and an expense account for agent's travel.

In the county an advisory committee is maintained. It is usually made up of the president or other representatives of farm organizations, like the beekeepers, poultrymen, dairymen, wool-growers, fruit and vegetable growers, 4-H Clubs, home demonstration clubs, etc. It is this committee that approves or disapproves an applicant for the office of county agent, or his assistants.

Just one thing more, the county agent doesn't come to you --- YOU go to the county agent.

To form a 4-H Beekeeping Club requirements in Lorain County, Ohio, are:

1. To have at least five boys in the club.
2. That at least eight meetings are held before fair time.
3. That the boys complete their project book.
4. That they exhibit at the County Fair.

E. W. Burleson

The American Honey Institute Elects New Officers and Board Members

EDWARD BURLESON of Waxahachie, Texas was elected Chairman of the American Honey Institute board of directors at the National meeting held January 27, 1958 at Columbus, Ohio. Mr. Burleson is a well known honey packer and for many years has been a member of the Institute Board, and active in Industry matters.

Henry Schaefer, Osseo, Wisconsin, Past President of the American Beekeeping Federation and board member was elected vice chairman. Harriett M. Grace remains as Director of the Institute.

Baxter Woodman, Grand Rapids, Michigan, R. M. Pugh, Tisdale, Saskatchewan, and Alan Root, Medina, Ohio were re-elected to the board for three years to succeed themselves. Harvey York of Jesup, Georgia was elected to fill the vacancy on the board. Other board members of the Institute are R. B. Willson, New York City. R. H. Dadant, Hamilton, Illinois, Woodrow Miller, Colton, California, and Roland Stone, South Gate, California.

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Hives of bees moved into an orchard to help insure maximum pollination. —Photo from Visual Aids Office, Penn. State Univ.

Honeybees and the Pollination Problem in New York State

E. J. DYCE, Professor of Apiculture,
Cornell University, Ithaca, New York

THE POLLINATION of our agricultural crops is the greatest contribution of honeybees to our national economy. About 50 fruit and seed crops require or are benefitted by insect pollination. Insects other than honeybees perform this service but their numbers have become so reduced in some areas that honeybees now do most of the work. Recent surveys in New York State indicate that 95 per cent of orchard pollination is provided by honeybees. On legume crops, such as bird's-foot trefoil, honeybees outnumber all other pollinating insects by a ratio of 20 to 1.

Several conditions have contributed to the decline in native beneficial insects. Over the years there has been a progressive trend toward intensive and specialized agriculture. Areas formerly devoted to general farming are now planted to fruit trees and to other specialized crops. Much of the best land in these areas is now undergoing constant cultivation and no longer produces enough nectar and pollen-bearing plants to maintain pollinating insects. Little waste land is left between the plantings for the nesting and hibernation of beneficial insects. The increasing use of insecticides and fungicides has not only forced beekeepers to move their bees from fruit areas but has greatly reduced the number of native pollinating insects.

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Agriculture is, therefore, becoming more and more dependent on honeybees. This need is recognized by fruit growers more than by others. Shortages of other fruit and seed crops must, in considerable measure, be attributed to agricultural practices destructive to native beneficial insects and to the failure to recognize the availability of honeybees as a substitute.

So far efforts to increase wild pollinating insects have been disappointing. Since all these insects winter as individuals it is difficult to build up their numbers in time for them to be of value in pollinating our major agricultural crops. On the other hand, honeybees winter in large colonies ranging from 10,000 to 30,000 individuals and can be readily increased, moved and concentrated in unlimited numbers on special crops. It is therefore logical that the work of most apiculturists has been devoted to maintaining a large number of colonies in each State.

Beekeeping Contributes Millions to Our Economy

The beekeeping industry is different from all other agricultural enterprises. It collects what would otherwise be wasted and it contributes untold millions of dollars to our national economy. We could get along if necessary without honey and beeswax, which of course is true of most other agricultural products, but we could not get along without honeybees if we are going to continue the economical production of many of our important fruit and seed crops.

Unfortunately some people still are of the opinion that the main justification for carrying on a teaching, research and extension program in Apiculture is to insure a living for a handful of commercial beekeepers. The basic reason, of course, is to maintain a beekeeping industry large enough to provide enough bees to care for the pollination of our agricultural crops. Each spring about 10,000 colonies of bees are rented by orchardists in New York State. This should not be surprising as New York is the third largest fruit producing State in the United States.

According to available statistics the number of colonies in New York State has been decreasing since 1900. Because of various factors this downward trend appears to be continuing. Honey prices have not kept pace with wages, living costs, and the materials beekeepers must buy to operate and maintain their businesses. The increasing use of insecticides, fungicides, and herbicides have in many instances seriously reduced colony populations and decreased nectar-bearing flora. It is therefore not surprising that many beekeepers are reducing the number of their colonies and turning to part- or full-time employment to derive a living. Unless this trend is checked a serious situation might develop.

If the beekeeping industry was permitted to decline, the agricultural producers would not likely realize the lack of pollinating until it was too late to save the industry. The shortage of pollinating insects between the time the industry failed and before it could be built back to normal effectiveness might cost the farmers of this State millions of dollars.

Beekeeping is a business of detail and few people have the natural ability and enthusiasm, especially after they receive a few stings, to become beekeepers. Estimates indicate that about one person in a hundred who starts beekeeping continues to keep bees. Informed apiculturists agree that if we are unable to keep our present beekeepers in business it would take years to educate another group to take their place.

Beekeepers have been and still are being given a great deal of help in reducing labor costs in their honey houses and honey packing plants but one can only go so far in helping them mechanize the handling of bees in the apiary. Sugar is the greatest competitor of honey and its production and manufacture lends itself much better to mechanization.

Fortunately the U. S. Department of Agriculture appreciates the need for maintaining enough honeybees in this country and without their help beekeeping would likely have suffered some severe reverses before now. During the occasional year when honey was in surplus supply their School Lunch, Loan, and Export programs have accomplished wonders in providing just enough confidence and help in time to prevent thousands of beekeepers from going out of business.

XUM

Difficult to Secure Enough Bees for Pollination

Commercial beekeepers supply practically all of the 10,000 colonies that are moved into the fruit orchards of this State each spring. They know the art of building up strong colonies in the early spring and they have the equipment to move the colonies on short notice. Without the help of these commercial beekeepers, pollination would soon become a serious problem. In fact, it is already becoming difficult to secure enough bees for pollination work in a few sections of the fruit areas.

Colonies used for pollination in the orchards require special attention and care. If they are too strong in bees or have too much reserve honey in their hives they will likely swarm, if conditions are favorable for nectar secretion. If the colonies are too weak in bees they will not do an efficient job of pollination. If the colonies do not have enough honey and the weather is unfavorable they may starve. It is a very costly procedure to feed colonies or control swarming when they are spread throughout the orchards. In addition to the problem of moving bees in and out of the orchards, especially when the ground is soft, there is the ever-present danger of colonies being greatly weakened or killed through poisoning. For these reasons few beekeepers are eager to rent bees to orchardists for pollination work.

Owing to the amount of insecticides and fungicides now used to control insects in the orchards, colonies of honeybees are no longer able to survive or maintain their populations if left in the orchards the year around. The colonies must therefore be kept in locations at least two or three miles away from the orchards and moved into the orchards just for the blossoming period. This work and expense of moving bees is just as great for the fruit grower, who tries to keep bees, as it is for the beekeeper.

Beekeepers claim they are unable, at the present time, to break even on renting bees for pollination work unless they receive about $7.00 per colony. This means a considerable expense to fruit growers. In an effort to reduce this expense many fruit growers have tried purchasing colonies for pollination services. In nearly every case the venture has resulted in failure. Failure usually results from the difficulty of finding men who are not afraid of bees and who know enough about colony management. One strong colony is worth several weak ones for pollination work and most fruit growers who have tried keeping bees now realize that it is usually more satisfactory and economical to rent strong colonies from beekeepers.

Bee poisoning has been a serious problem in New York State but with the help and cooperation of the fruit growers it has been greatly reduced. The use of arsenicals prior to the time the bees were moved in and out of the orchards, was causing great damage to colonies. A cooperative program which was started in 1946 to use DDT, and other materials of low toxicity, in place of arsenicals prior to petal fall has greatly reduced this problem. When a serious bee-poisoning problem arises it can usually be solved to the satisfaction of the beekeepers as well as to the other parties concerned.

Changing Farm Practices Have Reduced Honey Crops

Many changes have contributed to the lack of consistently good honey crops in recent years. Good farm practices now call for the early cutting of hay and the honeybees have little opportunity to visit clover blossoms. Other legumes have been substituted for alsike clover which do not appear to produce as much nectar. The acreage of buckwheat has been so reduced that there is now an extreme shortage of this honey where formerly there was an abundance.

Honeybees are attracted to blossoms by the high sugar concentration of the nectar. At the present time many of our weeds are better honey plants than cultivated crops. The trend to eliminate weeds in the fields as well as along the roads with herbicides has added to the difficulties of the beekeepers.

Fortunately the common herbicides such as 2,4-D and 2,4,5-T do not appear to poison bees. But they do reduce the amount of nectar-bearing flora. Furthermore, recent work with herbicides indicates that if the slightest amount of these materials drift onto plants, nectar secretion is stopped. Of course, any herbicide that contains oil

Honeybee visits fruit blossom. — Photo by A. W. Wittekindt, Bonn, Germany

or a strong caustic material will kill bees if it happens to hit them.

The general lack of knowledge concerning the value of honeybees is pointed out by a number of prominent educators. Dr. T. B. Mitchell, Professor of Zoology at the North Carolina Agricultural Experimental Station, stated in an article on "DDT as a Threat to Bees" which appeared in their Research and Farming Publication, Vol. IV, No. 3, 1946, that "most people do not realize the degree to which we depend upon insects. The pests receive all the publicity, while little if anything is said about our insect friends".

In the popular Entomological text book "Destructive and Useful Insects" by Metcalf, Flint, and Metcalf, there are some interesting figures which should help to provide a better understanding of the true value of honeybees to our national economy. In their chapter "Insects as Enemies to Man" is a table listing the losses caused by all insects to all staple, truck and fruit crops, nursery and greenhouse products, all products in storage, forest trees and forest products, livestock and insects that carry human diseases. The total annual loss is estimated at $1,326,442,-567, based on 1936 values.

In their chapter "The Value of Insects to Man" is a list of 30 crops which depend almost exclusively upon insects for the production of fruits and seeds. The total annual value of these crops is estimated at $2,087,833,000. These figures are for 1936 but the comparison between the total damage caused by all insects and the value of bees for pollination services alone is relative. There are some 50 crops that require or are benefited by cross pollination. If all these crops were taken into consideration the figure of two billion dollars would be raised considerably. In addition to the crops grown on a commercial basis there are thousands of backyard fruit trees and seed plants that require pollination.

From this discussion it will be seen that a broad cooperative program to help beekeepers is needed if we are going to maintain enough bees to pollinate our agricultural crops.

XUM

Drones – Honeybee Convoy

HENRY SINGER, Broomall, Penna.

DRONES, AS I see them, are caught in an evil web fashioned by Homo sapiens. Drones have long been subjected to much unjustified criticism and character defamation. In the interest of truth let us single out three off-color threads which we have spun into the web and help liberate our victim. These three strands which effectively but unjustly entangle the drone bee are concerned with fact, language, and philosophy. In this order let's sweep away some cobwebs.

First Some Facts

In the head of the drone bee there are no supracerebral glands for the secretion of royal jelly. Consequently we are not justified in looking to the drone to provide royal jelly and the attendant nursing care with which the workers serve the coming generations.

We do not find well developed crops in the abdomens of drones like those that are found in the worker bees. Consequently we may not intelligently expect drones to forage for nectar and water as the workers do. As a matter of fact, there is little basis for comparing the functions of the worker bees with the lack of them in the drones.

Drones are not provided with pollen combs, pectines to rake off the pollen, pollen compressors, or pollen baskets like those we find on the legs of workers. As we think of the drones we certainly should think of them with reference to these facts. Workers gather pollen and drones do not, simply because they are not equipped to do so.

On the drone's abdomen we find no wax glands; on his legs no wax-handling equipment; on his mouth no wax-

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working tools. These facts preclude any just association of drone with wax production, wax processing, or comb building. Drones are incapable of these activities. We should cease making comparative observations of the unproductive drone and his busy sisters. These few points of fact do not exhaust the subject but they can serve to reorient our thinking which has been warped by long bad habit.

Consider just one notable point of physical difference — workers have stings, drones have none. Though strongly in his favor, to our comfort, the fact gets passing recognition only. Popularly drones are lazy fellows and compare unfavorably with the industrious workers at every point. Even his stinglessness does not redeem him. And yet in our society no particular stigma adheres to papa because he is not equipped to suckle the new-born infant.

Linguistically the web of falsehood also holds our victim. Drones are so named in our tongue from Greek and Sanskrit prototypes probably because of the sound they make in flight. This denotation of the word is clear to us as we refer to the drone of engines, motors, propellors, turbines, etc., or to the sustained monotone of the bagpipe, or to that quality of the after-dinner speaker's voice which lulls so soon to sleep. It is this meaning associated with sound which should be uppermost in our thought when we use the word drone to refer to the male honeybee.

But the language tangle which has snared both man and bee is the connotation of "drone" meaning a lazy nonproductive fellow. It is frequently this meaning which is popularly to the forefront when reference is made to the drone bee. It is in this familiar meaning we speak of the "drones" in city hall, in office, or in shop. Too often it is with this meaning we speak of the drone in the hive. Like most name-calling it does the individuals so tagged great injustice. And, as it often happens, such easy dubbing is not in conformity to the facts.

If, to digress, that fellow in city hall who does not produce is called "drone" because the caller is thinking of the non-producer in the hive, then let him look rather to his own civil service and appointment techniques which put one **incapable** of production in office. Then the analogy to the drone in the hive would be a little more accurate. A single word may falsely color much thinking, with ill effects to all concerned. To quote here from the Wisdom of Sirach (28:18) "Many have fallen by the edge of the sword, but not so many as have fallen by the tongue." Or, shall we say that the city hall "drones" are so named because they, like the honeybee drone, really buzz around? And this analogy too is true.

The love of wisdom requires that we note the facts, tailor our notions to fit them, and state the matter in suitable words. With this philosophy to guide us, we won't continue looking to the drone to do what he wasn't designed to do.

Everyday someone, somewhere is probably traducing the character of the drone bee, ignoring the corrective of pertinent facts. Books, old and new, perpetuate this faulty attitude. To quote the old in the new: " 'The drone,' says quaint old Butler, 'is a gross stingless bee, that spendeth his time in gluttony and idleness. For howsoever he brave it with his round velvet cap, his side gown, his full paunch, and his loud voice, yet is he but an idle companion, living by the sweat of others' brows. He worketh not at all, either at home or abroad, and yet he spendeth as much as two laborers; you shall never find his maw without a drop of the purest nectar. In the heat of the day he flieth abroad, aloft and about, and that with no small noise, as though he would do some great act; but it is only for his pleasure, and to get him a stomach, and then returns he presently to his cheer.' — The Feminine Monarchy. (1609)." This is quoted from "The Hive and the Honey Bee", Hamilton, Ill., 1949, page 59.

But, as it turns out, we snare ourselves along with the drone because these finger-pointings tally up to tacit criticisms of the drone's Creator. Surely the Creator could have provided the drone bee with a stinger, pollen basket, wax glands, and all the rest of a worker's equipment. Surely He could have furnished me with a working pair of mammary glands, though He didn't see fit to do so. And as I look around at what He has made I am thoroughly delighted with His designs. However, He

(Continued on page 188)

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One of our bee yards near Pharr in the citrus groves. The palms line miles of highways in the lower Rio Grande Valley.

Beekeeping along the Lower Rio Grande

as practiced by G. C. WALKER, JR.,
Pharr, Texas

FIRST, WE will have a description of the area in which we operate. The lower Rio Grande Valley roughly takes in an area from 10 to 30 miles wide and about 75 miles long. Practically all this area is rich irrigated farm land. The principal crops are citrus fruit, cotton, cabbage, pepper, tomatoes, cantaloup, carrots, and many other winter vegetables.

Our operations and those of other beekeepers extend north and west of the area just mentioned. This area is semi-arid ranch land, ranging from level, fertile land to quite hilly land and some almost too rocky for anything to grow. Mesquite trees are over all this area and many other scrub trees and bushes that produce honey when they get rain. Everything in this area either has stickers or stingers.

You can readily see what happens to us. We move bees all the time, trying to get orange honey, then mesquite and perhaps catsclaw, then back to get the cotton honey, and maybe move again to escape the cotton dusting.

The cotton poisoning has made resident beekeepers very scarce in this fertile valley and the dry weather makes them few and far between in the semi-arid country I mentioned. We have one resident queen breeder, Clay Eppley, in Brownsville, one royal jelly producer

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and packer, E. B. Ault, of Weslaco. A. W. Nations, of Donna, and our outfit here at Pharr are the only two who are crazy enough to try to produce a crop of cotton honey in this area. Our outfit loses about 35 per cent of the colonies each year from cotton poisoning. We average about 40 pounds of cotton honey and probably 30 pounds of the mesquite and catsclaw honey.

This was a wonderful orange honey producing area 10 to 15 years ago but in 1948 and 1950 we had two severe freezes. About three-fourths of the trees were killed and the other one-fourth had to be topped and a lot of the trees are still poor after 10 years. Since 1947 there has been practically no orange honey produced in this section. Almost every year we get a good build-up flow for two to three weeks from orange.

Now we will come to the real beekeeping in this area. I don't know whether it is the best wintering and build-up place in the United States, but I dare say there is as large a concentration of bees in the orange area here as anywhere. I will make a guess that there are about 15 to 20 thousand colonies of bees in an area 15 to 20 miles square while orange trees are in bloom. To have bees here really pays off for the beekeeper who would have to winter his colonies in the North or kill them. He can take off the honey, sell it, and move south and vacation on the extra money. At any rate the man who works hard can haul some good bees out of this area from April 1 through June 1.

Some men are even doing better than that. They are selling the honey they would feed the bees in the North, then moving the bees down to pollinate cantaloup at $4.00 to $5.00 per colony. This, of course, just gives him a better vacation. The cantaloup business is relatively new here and the farmers have varied ideas about how much faith to put into pollination. One grower of a thousand acres of melons leases approximately one colony per acre while others lease one colony to two acres, and some just say, "Let the wild bees take care of the pollination". He may say Dad raised good melons 40 years ago and had never heard of pollination. Most melon growers either lease bees or talk some beekeeper into moving some to his melons for the location.

Here Again the Insecticide Problem Arises.

That monster sticks his head up around every corner I turn. We have had varied experiences with the polli-

600 colonies of bees from Wyoming with mesquite and cactus in the background.

Beth, Ann, and myself in our driveway.

nation business. I will give a few of the good points along with the bad. First, the $5.00 per colony really spends good and you don't have to extract a pound of honey. We have had bees on melons where we received the $5.00 per colony and produced 30 to 50 pounds of honey. We have also had bees on melons where they were poisoned so badly it took almost a year to build them back.

Another bad feature is collecting the money. We have had trouble along this line and so have other men. We argue the pollination situation pro and con as to what it is worth and we come to the conclusion that the individual has to make his own decision.

Some beekeepers have quit after several years of it and others are looking for more and larger deals. It depends on one's operations as to what it is worth to pollinate anything anywhere.

Last, we will talk about the bee shipping in this area. I mentioned previously that Mr. Ault of Weslaco is a royal jelly producer and packer. He also ships lots of bees and queens. There are others here who ship package bees, queens, and nuclei. Clay Eppley ships nuclei by the truck load. Nuclei is the way we ship bees and we specialize in truck loads instead of shipping them parcel post and express. More bees are raised in the Rio Grande Valley and less sold than most anywhere because beekeepers raise them to restock their own outfits in the North.

Our season here is long but we don't have any continuous honey flow for any long period. We figure on two to four weeks from mesquite and catsclaw, which bloom about the same time. We get about six to eight weeks on cotton and then the other minor flows come in for lesser time and generally just provide feed for the colonies for a time. Bees will bring in some pollen and nectar most any month of the year that the weather is favorable. We have had winters here without a real killing frost. Although bees do bring in a little pollen and nectar most all winter, it is far from sufficient to maintain a good colony so one has to leave quite a bit of old honey or feed the colonies. The orange flow generally starts about the last of February and is generally over by the last of March.

This is our 20th year of operation as Walker Apiaries and it will be our 15th year here in this tropical valley of Texas where the climate is unsurpassed by any, even Miami and Los Angeles.

Better Queens

Rearing the Cells

as practiced by JOHN W. HOLZBERLEIN, Meeker, Colo.

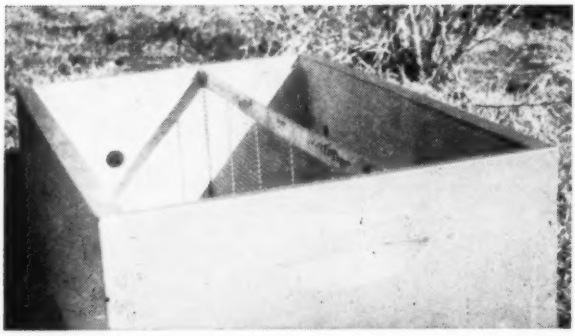
No. 1. Showing type of cell bar we use.

(Continued from February)

WITH THE preparation of the cell-building colonies made as described in last month's article one is ready to begin the grafting. First, let us take a look at the equipment needed. Since we will be double grafting we will be handling two sizes of larvae. For this reason it will be advisable to have two sizes of grafting needles, a large one for the first graft of large larvae, 36 to 48 hours old, and a very fine needle for the second graft in which we use larvae under 12 hours old. It is necessary to remove the large larvae of the first graft before giving the tiny larvae from the breeder queen. For removing these large larvae in preparation for making the re-graft we have found a slim pair of tweezers whose points have been rounded and smoothed to be the most satisfactory instrument. These permit picking the larvae from their bed of jelly with the least possible disturbance. Both grafting needles and the tweezers should be very smooth. This condition can be accomplished by honing on a very fine stone or piece of crocus cloth.

One will need some place to graft equipped with a good light and facilities for heating. Sunlight cannot be improved upon for a grafting light, but too often the work must be done when the sun is obscured. A sealed beam bulb of 150-watt capacity affords the best artificial light we have ever seen. The heating equipment can be anything that will maintain a temperature of 85 to 90 degrees. A small space that is not used for anything else and can be electrically heated and thermostatically controlled is ideal, but many other arrangements can be satisfactorily used.

The larvae from which the primary graft is made may be from any colony as they will be discarded next day. They should be as large as can be conveniently picked up and transferred from



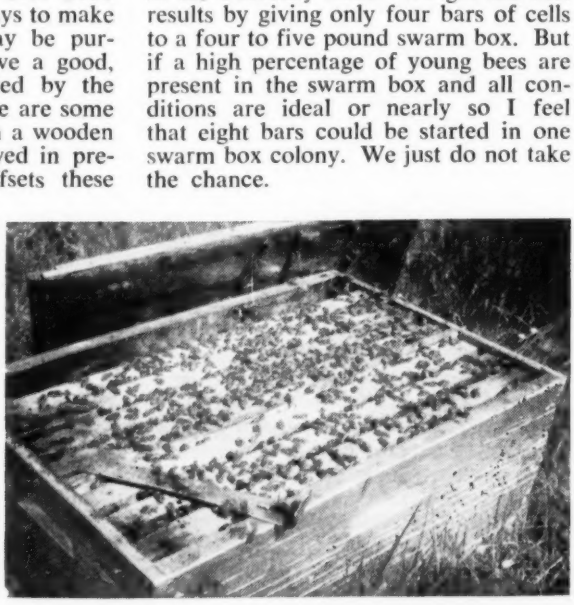
No. 2. This is a small hive used for keeping breeder queen while she is used for grafting.

the cells in the comb to the queen-cell cups. The best age seems to be from 36 to 48 hours old. At this age they seem to be more readily fed and are better accepted by the swarm box colony. The purpose of this first graft is to get as many of the cells accepted as possible and conditioned so that when the second graft is made from the breeder queen the bees will go forward with the process of rearing queens from these tiny larvae with the least possible interruption in their feeding and development.

We use a staggered row of 16 cells on a bar that fits a standard frame. (Picture 1). We dip them as described in Eckert and Laidlaw's book, and in a part of a day are able to make up enough bars of cells to rear over 2000 queens. There are several ways to make queen-cell cups, or they may be purchased. So long as they have a good, sturdy base and are accepted by the bees they are all right. There are some advantages to a cell cup with a wooden base, but to us the time saved in preparing the type we use offsets these advantages. There are also some advantages to the use of a narrow cell bar and frame with a single row of cells. These are really not critical features, but it does seem important to have the cells grouped in the center of the bar with about three inches left bare on each end as cells in the center part of the bar always seem to get better care.

The Primary Graft

In making the first or primary graft the large larvae are transferred from the comb to the cell cups dry, that is with only the jelly that adheres to them. As soon as a bar is grafted it is given to the swarm box colony that has been prepared earlier in the day as explained in the February issue. We get the best results by giving only four bars of cells to a four to five pound swarm box. But if a high percentage of young bees are present in the swarm box and all conditions are ideal or nearly so I feel that eight bars could be started in one swarm box colony. We just do not take the chance.



No. 3. The same hive in use. The queen has the run of the 3 combs under the hive tool.

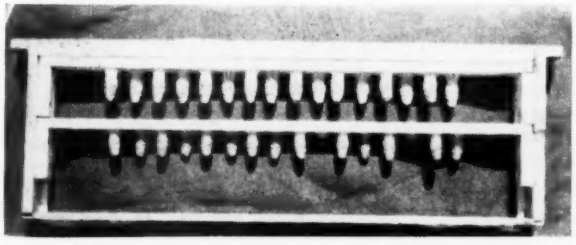
No. 4. Tapping cell bar on open palm to restore royal jelly to levelness.

Before describing the second graft let us consider the care of the breeder queen and the preparation of larvae for grafting. We use a small, specially built hive for holding the breeder queen while using her. (Pictures 2 and 3). The queen is kept in the smaller, three-frame compartment and is allowed to keep one frame of brood in all stages. The other two combs are one of honey and pollen on the outside and one empty comb. The part of the hive outside the excluder is kept filled with combs of honey and pollen. Four days before larvae are needed for the second grafting this comb that was originally empty is removed and replaced with another empty comb. This will give us larvae of the proper age when we need them.

After the re-graft is made from this comb it is returned to the breeder queen, but placed on the outside of the excluder. In three days this comb will contain many larvae just the right age for making the next primary graft. After the second time this comb is used it is taken away and given to some other colony to finish rearing. The empty space in the queen compartment is given another empty comb when the first one is removed. This keeps the queen colony stabilized on three frames of brood. In the first place this insures that the larvae will be lavishly fed, and secondly, it conserves the energy of the queen. As we will want to keep either inbred, cross-mated queens or old, production proven queens as long as possible they should not be allowed to lay at full capacity. Dr. Farrar confines his breeder queen in a screened hive on top of a strong colony with a flight hole at one side. He cages her in this hive the same as the queens in the finisher colonies. In some respects this method may be better than ours, but so far we have had satisfactory results. We keep the strength at the desired number by moving it if it becomes too strong and shaking young bees before it when it needs more strength.

The Re-graft

Approximately 24 hours after the primary graft is made the cell bars are removed from the swarm box colony. The bees are carefully brushed from them and the cells taken to the grafting house. In order to have the cells away from the bees a minimum amount of time the cell bars are handled singly. Two people can work at this job to great advantage, one person working outside taking the cell bars from the swarm box colony and returning the re-grafted bars to the finishers, the other person remaining inside doing the



No. 5. Two bars of cells showing difference between double and single grafted cells. Of course the top bar is double grafted.

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No. 6. It is important to use the right age larvae and get the cells out on time. This is what happens when a virgin emerges.

grafting. At this operation the grafting house should be kept at just about the proper temperature so that larvae are not chilled and stop feeding.

The humidity should be kept high so that jelly does not tend to dry and thicken. The importance of speed at this time cannot be over-emphasized so that the larvae for these re-grafted cells are away from the bees no longer than is absolutely necessary. First the large larvae are removed from their beds of jelly with the tweezers and discarded. To restore these jelly beds to levelness after the larvae are removed we gently tap the back of the cell bar on the open palm (Picture 4). They are then ready to receive the larvae from the breeder queen. Only the smallest larvae from the better fed cells should be used. They can be picked up and transferred by literally floating them off of the fine needle onto the beds of jelly in the prepared cell cups. Four bars of these re-grafted cells, or about 50 to 60, are given to each finisher, two bars in a shallow frame, one frame on either side of the queen compartment. Here they are soon on the road to becoming queens.

The prime principle of the double grafting system is to insure that the grafted larva has an abundant supply of royal jelly of the proper consistency and temperature to bridge the time that elapses after the larva is removed from the parent colony and before the nurse bees in the cell finisher resume the feeding.

At this point the screen in the swarm box colonies may be removed and the bees above be permitted to re-join the colony. Each four days they are again set up and used to start a new batch of cells. And each four days a group of cells are re-grafted and put into the finishers. The second time new cells are added to the finishers the previous graft, which is just being sealed at this time, is moved outward and the new graft again placed next to the queen compartment. At the time of the third graft the oldest cells are placed in the super above. On the morning of the 11th day from the first re-grafting the matured cells are removed from the finisher, freed from bees by gentle brushing, and then cut off of the bars and placed in a padded box. They should be kept warm and placed in the nucs as soon as possible. One should be careful to avoid jarring or exposure either to the direct rays of the sun or to chilly winds.

"I hope this is the last time he goes into his birds and bees routine."

Beekeeping in Holland

A. J. H. SCHOUTEN, Germantown, Md.

Beehives in one of the "polders" of the Zuidersea — cabbage seed.

BEEKEEPING IN Holland is generally a back-lot affair except a few commercial beekeepers who are at the same time manufacturers of beehives and other material. Here you find the only owners of apiaries up to 500 or more hives. The others have from two to 25 hives. All beekeepers are organized. The largest one: "Association to Promote Beekeeping in the Netherlands" had thousands of members, but this dropped in recent years to around 8000 because the price of the sugar we get for bee feeding was becoming so sky high that large numbers of beekeepers found it unprofitable to keep bees and sold their hives. The organization is also connected with the new beekeepers' research institute, and beekeepers' supply house where hives and materials can be bought and where they process and ship our bees sugar.

The big organization is divided into bee clubs located in almost **every town or community.** All these local bee clubs have their own officials, activities, and programs. Part of membership fee goes to headquarters of the country organization. President and committee members are elected by the voting system. The activities of local bee clubs consist of speeches, movies, demonstrations, beehive construction courses, queen rearing, and going together to the or-

Author with his beehives at home. Note the frame hives with walls of straw.

Author just caught a swarm.

chards with our bees for pollination. Most clubs meet once a month. When we go to the orchards one member of the club who has a truck comes along with a few helpers and loads all the hives on the truck and places them in the orchards. Orchard owners pay a renting price per hive for the period the trees are in bloom. Several years ago the price paid for a straw skep was 2.5 guilders (about 60 cents American money) and for a beehive with movable frames, 5 guilders ($1.20). As sufficient for pollination we set out four hives per hectare (2.5 acre).

However, for our 50,000 HA or 125,000 acres of fruit trees alone we need 200,000 colonies of bees, which is much more than we actually have in the whole country. In Holland we need more bees, but the sugar price and weather conditions and small honey crops obtained hold people back. In the nearly two years that I am in the United States I find this country much more bee and honey minded than Holland, and agriculture officials here are much more convinced that beekeeping is important for better agriculture.

Our beehives vary from straw skeps through all kinds of Dutch, German, Swiss, and English types to modern hives with self-spacing Hoffman frames. Efforts are made to have a standard hive suitable for larger colonies and better queens. The straw skep is still in use by old timers. The skep beekeepers' concern is to get two or three swarms of his skeps, put them in the heatherfields and after the honey crop (if any) he sorts out his heaviest skeps and drives the bees out in order to get the honey. The most used hive is the Simplex hive. It consists of bottom and inner compartment with 10 frames (14 x 8.5 inch). Inner compartment is made of thin wood. On top of this is another honey story also containing inner compartment with 10 frames (14 x 5.5 inch) and an outer cover. These hives and straw skeps are kept in bee houses.

The pollen and honey sources are starting when the crocuses open up their beautiful blooms in March. This and the hazel nut trees are our first pollen source. In April and May we have the fruit trees and a real build-up is in full swing. Often when our colonies are strong enough we can have our first honey flow of fruit trees and dandelion. It is swarming time for straw-skep beekeepers and swarm-prevention time for the modern hive beekeepers because the summer honey flow is near. White clover, linden, cabbage, and others are waiting for the hives. After the months of May, June and July, we have a stand still in our flow. We

(Continued on page 191)

Let's Bake Cookies

MRS. BENJ. NIELSEN
Aurora, Nebraska

TIRED OF all your old favorite cookies? Like to try something new and unusual? Something easy-to-do, intriguing to smell as the dough bakes to golden perfection in the oven, and a delight to serve! All of these toothsome treats keep delightfully fresh because of their honey content. However, they do not keep very long unless carefully hidden from small fry! (And not so small fry.)

How about having some folks in for coffee? Be ready to give the recipes too!

Honey-Filled Cookies

One cup dates, ¼ cup honey, ¼ cup brown sugar, ¼ cup orange juice, and ½ teaspoon grated orange rind for filling.

One-half cup soft butter, ⅓ cup honey, ⅓ cup brown sugar, 1 egg, 1 cup ready-to-eat bran cereal, 2 cups sifted flour, 1 teaspoon baking powder, ½ teaspoon soda, ½ teaspoon salt, and ¾ cup buttermilk or sour milk.

Combine dates, honey, sugar, orange juice, and grated rind in small saucepan. Cook over low heat until thickened; cool. Blend butter, honey, and sugar; add egg and beat well. Stir in bran. Sift together flour, baking powder, soda, and salt. Add alternately with buttermilk to creamed mixture, mixing well after each addition. Spread half the batter in greased shallow 13 x 9-inch pan. Spread with filling; cover with remaining batter. Bake in moderately hot oven, 400 degrees F., about 30 minutes. Cut into squares when cool. Yield: 24 2-inch squares.

Honey Fig Dainties

One cup dried figs, ¾ cup shortening, 1½ cups brown sugar, firmly packed, 1 beaten egg, 2¾ cups sifted flour, 2 teaspoons baking powder, 1 teaspoon salt, 1 teaspoon cinnamon, ¼ cup honey, and 1 cup chopped walnuts.

Grind figs. Cream shortening and sugar well; blend in egg. Sift flour with baking powder, salt, and cinnamon. Add alternately to creamed mixture with honey. Stir in figs and nuts; mix well. Shape in 1½ x 2½-inch bars. Wrap in waxed paper and chill in refrigerator several hours or overnight. Slice thin and place on ungreased cooky sheet. Bake in moderately hot oven, 375 degrees F., about 10 minutes. Yield: 7 dozen cookies.

Honey Applesauce Cookies

Two cups sifted flour, 1 teaspoon soda, 1 teaspoon salt, 2 teaspoons cinnamon, ½ teaspoon cloves, ½ cup shortening, ½ cup sugar, ½ cup honey, 1 egg, ½ cup thick applesauce, ½ cup raisins, chopped, ½ cup nutmeats, chopped.

Sift together flour, soda, salt, and spices. Cream together shortening, sugar, and honey; beat in egg. Add dry ingredients and applesauce. Beat one minute. Stir in raisins and nut meats. Drop from teaspoon onto lightly greased cooky sheets. Bake 12 to 15 minutes in a moderately hot oven, 400 degrees F. Yield: 5 dozen.

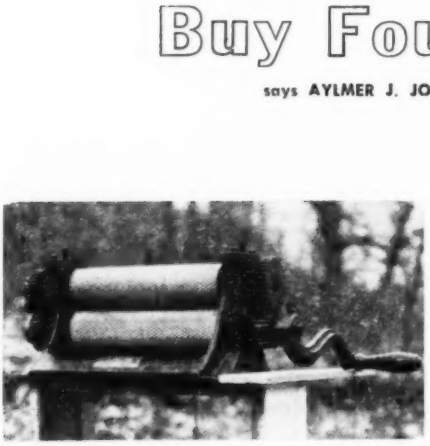
Honey Fruit Bars

One and ½ cups wheat flake cereal, 1½ cups sifted flour, 1½ teaspoons baking powder, ¼ teaspoon soda, ¼ teaspoon salt, ¼ cup butter, ½ cup sugar, ½ cup honey, 1 egg, ½ cup milk, and 1 cup raisins.

Crush cereal into fine crumbs. Sift together flour, baking powder, soda, and salt; mix with cereal. Blend butter, sugar, and honey; add egg and beat well. Stir in dry ingredients alternately with milk, mixing after each addition. Stir in raisins. Spread batter about ½-inch in thickness in greased shallow 15 x 10½-inch pan. Bake in moderate oven, 350 degrees F., about 15 minutes. Cool and cut into bars. Yield: 35 bars, 3 x 1½ inches.

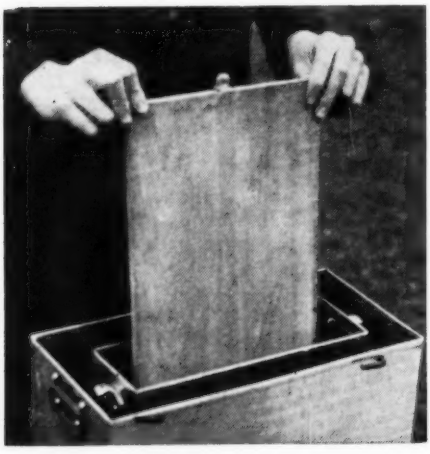
Be Glad You Can Buy Foundation

says **AYLMER J. JONES, of Malden, Mass.**



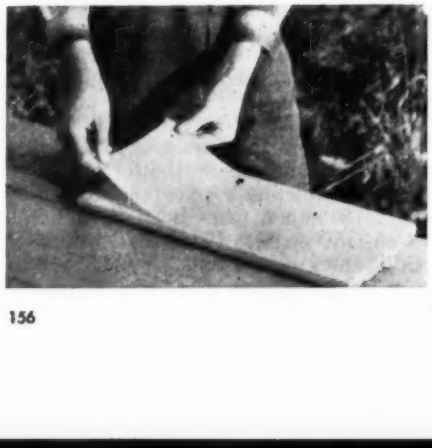
Hand operated mill in use at turn of century. It was sometimes difficult to achieve an accurate mesh of the die rollers, and to obtain uniform thickness of the embossed sheet.

SOMETIMES ADVANCES appear to come so slowly that it is refreshing to look back a few decades and examine old-time methods. Progress then becomes more evident. This bit of philosophy is particularly true of foundation.



For some time after the movable frame, invented by Langstroth, it was the custom to wax the underside of the frame top bar, in the hope the bees would start with this wax and build comb within the frame. Sometimes they did, and sometimes they didn't. Even when they did build comb where desired, a large percentage was drone size. No provision for section honey as we know it, nor for nice, even cut-comb honey, was made. Inverted jars were sometimes put in supers and bees filled these with comb and honey, and the entire jar sold.

Dipping a board in hot-water-jacketed tank of melted beeswax. This particular tank must contain about 30 pounds of wax before the depth is sufficient. Board must be ripped at least once from each end for near-uniformity of thickness. The melted wax in the tank must be kept at the correct temperature.



Finally there came the idea of plaster casts to use as dies for moulding foundation. Plaster forms were cast from desirable natural comb pared down to the midrib. This process was followed by flat-bed metal die plates.

Congealed sheets are peeled from each side of a board. The board must first be soaked in warm water and a cornstarch solution before dipping.

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No process was so efficient, however, as the rollers with dies that were finally devised to roll out sheets of wax into foundation. At first single sheets were made, two at a time, and run through the mill by hand. Then came a method of producing a large roll of sheet wax and power for mills. Up to this last stage, the process cou'd be, and to a large extent was, a homecraft project. Now with power rollers and long rolls of wax possible, the process moved into the hands of experts in well equipped shops, where humidity, temperature, etc., could be controlled.

Foundation of any thickness can be accurately machined out having the all-important beginnings of cell walls present. Some authorities hold that these cell wall beginnings are more important than the triple lozenge cell bases, insofar as inducing the bees to build good worker comb is concerned. Look at the pictures herewith and be glad you can buy your foundation or have your wax worked up by experts. Beekeepers generally are glad to avoid the expense of equipment, and the tedious, hot, sloppy, potentially dangerous, work of making their foundation at home.

Rolling through a sheet of beeswax. The roller must be covered with soapy water and the sheet brought to the correct temperature. Considerable force is sometimes necessary.

IN MEMORIAM
Clarence L. Howk

WHEREAS, the Morris County Beekeepers' Association suffered a great loss in the death of Clarence L. Howk on November 22, 1957, and

Whereas, Mr. Howk was a prominent member and officer of the beekeeping organizations in his area; an exemplary beekeeper; a reliable source of information about beekeeping; an inspiration to other beekeepers; and a man exceptionally generous of his time, his energy, and his knowledge in helping his fellow beekeepers, and

Whereas, his most notable service was to the children of the communities in which he lived, arousing their interest in bees and beekeeping by lectures on bees and by providing observation hives in schools and museums, and

Whereas, his unusual kindness, thoroughness, and moderation endeared him to all whom he met, therefore, be it

Resolved, that we, his friends and associates, express our deepest sympathy to his bereaved family; record our admiration of his sterling character; and our appreciation of his help and advice in the betterment of beekeeping, and be it further

Resolved, that a copy of these resolutions be given to Mrs. Howk and his family and further that they be published in the New Jersey Beekeepers' Association News.

Frank J. Renner
Secretary

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FROM Foreign LANDS

Translated and Edited by Erika Barth

The Effect of Honey on Diptheria Bacteria:

EXPERIMENTS INVOLVING honey and diptheria have brought some very interesting facts to light. Unfortunately, the article providing this information did not give any data about the medical scientists themselves. Serious investigators can secure this information by writing to the editors of the publications involved.

What effect does heated honey have on diptheria bacteria? Here are the enlightening answers:

1. Stored unheated, which has been protected from heat and light, retards diptheria bacteria growth by 25%. This is in sharp contrast to conditions in a normal solution — one untreated by honey — wherein diptheria bacteria multiply rapidly.

2. Artificial honey (made in Germany) does nothing to retard development of diptheria honey.

3. Heated honey loses some, if not all of its bacteria-destroying properties.

4. Bacteria solutions treated with honey noticeably lost their toxicity after a few days.

5. When tonsils were painted with honey, and nosedrops made of a honey solution were used on germ carriers, diptheria bacteria disappeared.

6. Honey changed the properties of diptheria bacteria. Among other effects the bacteria lost their ability to secrete toxins.

Translated from Sudwestdeutscher Imker (pg. 84), March 1957, which reprinted article from the Westfalische Bienenzeitung.

The Healing Powers of Honey

A PHYSICIAN, Dr. Pol Demade, reports in Rucher Wallon of the success he has had in healing stomach and intestinal ailments with honey. Until recently, the use of honey as a healing agent was restricted to throat and bronchial ailments or rheumatism and constipation.

Since honey is a natural sugar, works as an antiseptic, seldom ferments, and is easily and rapidly digested, he prescribed it with good results for certain types of intestinal disorders.

The French doctor noticed the valuable qualities of honey especially in children who were suffering from acute or chronic intestinal disturbances. He reports about an eight or nine month old child suffering from extreme malnutrition. The child was in an almost hopeless condition when Dr. Demade prescribed a strict diet of honey and water for eight days followed by a thin mixture of goat's milk (⅓ milk, ⅔ water).

The infant recovered remarkably well.

Honey cleanses the intestinal tract with its antiseptic properties while being a nourishment at the same time. It can therefore be used with good results in very bad cases of diarrhea even though it acts as a light laxative. This was tested by Dr. Demade on humans as well as animals (chickens).

Many sports journals and newspapers point to the special importance of honey to the athlete. One athlete in Canada wrote: "After many experiments to raise the endurance of athletes and because of blood tests before and after a workout, the eating of honey is highly recommended".

Gertrude Ederle, the first swimmer of the English Channel, states that she obtained her strength from honey.

L'Abbeille de France, August, 1957.

Live and Learn

by Propolis Pete

THERE IS an old saying that the wheel that does the squeaking is the wheel that gets the grease. Maybe. Sometimes a squeaking wheel gets thrown on the dumps. But, be that as it may, my squeaking about the mystery of that yellow pollen that my bees always bring in around Thanksgiving Day has brought some of the grease to the surface. The consensus of opinion seems to be that it is witch hazel, which blooms around that time in this latitude.

Could be that that's what it is. The fly in the grease, or ointment, if you like it better that way, is that I cannot find any stands of it, nor can I find anybody else who has ever seen it growing around here. And that includes a couple of nurserymen, who should know if anybody does. Some day I'll find out where it is really coming from, and then kick myself for not finding it sooner.

November pollen probably doesn't mean very much, but it won't be long now before a yellow pollen of about the same color will be coming in, and strong. I have traced that early pollen to several plants which yield pollen of just about the same shade for each. In some favored locations around here, even on warmish days around the end of February, the bees begin to bring in pollen from skunk cabbage. None of my early pollen seems to be from that. It grows in swamps or wet places at the edge of swamps or streams, but as there are no swamps within reasonable flying distance of here, it must be other things, that the bees can work in chilly weather.

It is always a glorious sight to see that first pollen coming in. Sometimes you can get a pretty good idea of what kind of colonies you have by the way that they bring in that early pollen. Some bring in big gobs of it, and they generally have good queens and strong bees. They are the ones to watch carefully for stores, because it is unbelievable how much honey a strong colony with a lot of brood can use up at this time. Some colonies bring in dribs and drabs. Probably you will find that they either have poor queens, or the bees themselves haven't got the umph to go out and get it in this chilly weather. In any event, the first pollen that comes in in quantity is a signal for you to get busy and make sure that your bees have enough to eat.

Don't go by what you left with them last fall, unless you know that you didn't leave enough. Every load of pollen that goes in has to be matched with enough honey to make up feed for the larvae, which should be coming on fast now, in ever increasing numbers. If you are doubtful, or even if you are doubtful about being doubtful, give them a standby ration of dry sugar. If they need it, they'll take it. If they don't need it they won't, and you can make syrup out of what they don't take down, for the colonies that need liquid feeding later on.

There is a question as to whether or not stimulative feeding pays off. If the bees have enough natural stores they should not need it. On the other hand, although I don't have any statistics to prove it one way or the other, it seems to me that I get more of a crop from colonies that I keep feeding up to (and sometimes past) dandelion bloom. Men who know more about bees than I do usually recommend a 50/50 ration of sugar to water in the syrup. My bees seem to thrive on a mixture of five pounds of sugar to the gallon of water, but I will say this, that they take down most of that mixture on days when they can't fly out.

Maybe the thinner mixture has enough sugar in it to keep them alive if they are starving, yet is thin enough for them to use it instead of going out for water. In any event they'll take down a Boardman feeder full overnight if the colony is good and strong, so they must make some use of it.

Another possible advantage of spring feeding regardless of whether the bees need it or not, is the chance to get some sulfa into the brood nest. Keeping my fingers crossed, I have never had a case of AFB up to now, even though it is all around me. Just as a matter of insurance, I dose the syrup that I feed, and whether that has anything to do with my luck I don't know. It doesn't cost much and gives me peace of mind anyway, so I'll keep on doing it until I know better.

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Editorials

Cold Weather May Cause Winter Losses

FROM THE latest semi-monthly honey market news report, it is noted that bees in some sections of the North are in need of good cleansing flights. As a rule, populous colonies of bees with good quality winter stores will withstand the rigors of a protracted cold spell of weather. However, if bees are kept in their hives for too long a time dysentery may result.

It is a little difficult at times to determine just why some colonies in an apiary will continue to cluster quietly during a long spell of cold weather, while other colonies may be restless and show signs of dysentery, spotting on the fronts of hives. We visited a few apiaries in this locality during the past few days and found these conditions. It seems possible that the colonies that showed signs of dysentery and were restless, may have stored some late gathered inferior quality honey last fall, while the other colonies that did not show signs of dysentery and were quiet on the combs had a better quality of winter stores.

Some beekeepers in the North make a practice of feeding each colony one or two ten-pound pails of thick sugar syrup in the fall before the bees go into winter quarters, in order to help correct the quality of stores the bees may have because of having access to some inferior quality late-gathered honey. The bees would then have access to thick sugar syrup early in the winter and the honey of questionable quality would be consumed later.

Honey Price Support Operations for 1957

A REPORT from the Commodity Stabilization Service of the U.S.D.A. as of January 15th, 1958 shows 2½ million pounds of honey under loan, and a little over a million pounds under the purchase agreement. This means that about 3½ million pounds are under the support program this year.

A year ago the total amounted to a little over 1½ million pounds and about the same for two and three years ago. In 1953, however, something like 3 million pounds were involved, and in the 1952 program there were 8½ million pounds under loan and 5 million pounds under purchase agreement.

The industry is fortunate to have this aid. The loan program enables producers to borrow against their honey crop, and sell the honey later in an orderly manner. It helps the honey handler by creating a more stable market price that will enable him to buy with more confidence than otherwise.

But this program must be supplemented with an adequate honey sales promotion plan. The mechanism to do this is in operation with the Industry "Check-Off" plan. It must have the support of all producers and packers. Make it your responsibility to learn about it and support it.

P & Z LIBRARY

Package Bees and Queens Essential to Our Industry

IN REVIEWING the beginning and growth of the package bee and queen business in this country, we find that the late A. I. Root was one of the pioneers, having started the shipping of bees in packages in 1878. Bees were then shipped by express in ½, 1, and 1½ pound packages. The cages then used were quite similar to those now used. Especially prepared candy instead of sugar syrup was used for food in the shipping cages.

Many difficulties in shipping were experienced between 1880 and 1920. During the past 35 years the business has grown by leaps and bounds. While we do not have data on the amount of packages shipped within recent years, it is estimated that approximately one million pounds of bees and a like number of queens are shipped from South to North annually. In parts of the South large areas are well adapted to the production of early bees and queens because of climatic conditions and a light, continuous honey flow.

Many beekeepers in the North depend on package bees and queens for starting colonies early in the spring. It is entirely possible to develop populous colonies of bees that will store a surplus of honey the same season. This is one way to derive quick returns from an investment in bees and equipment.

Some beekeepers in the North may not realize how many problems there are in the production and shipping of bees and queens. The shipping season comes during April and May, at least the bulk of the package shipping is done during these months. This means that commercial shippers who send out hundreds of packages each day must prepare far in advance for filling these orders. The grafting of queen cells is begun in early March. Queen-mating hives have to be made up early, also shipping cages must be assembled in order to have them available when needed. There is also the problem of securing necessary labor for queen-rearing and filling orders. Erratic spells of weather sometimes interfere with the breeding program.

When beekeepers in the North find queenless colonies early in the spring, colonies that are sufficiently populous to warrant introducing new queens, there is no place in the United States, other than the southern states where early laying queens can be purchased.

Our hats are off to the many queen and bee shippers in the South who practically work night and day during the heavy shipping season in order to get orders out on schedule, to satisfy customers. The package bee and queen business is an essential part of our industry and those engaged in furnishing these bees and queens are rendering a worthwhile service.

Beekeepers Must Plan Ahead

WE OCCASIONALLY hear of some beekeeper who has secured an unusually large crop of surplus honey, while some other beekeepers in that vicinity secured much smaller crops. In most instances the beekeeper who secures an unusually high per colony average of honey is a good beekeeper, knows just what he is doing and why, and plans ahead, in advance of the actual honey flow, so that he may secure the maximum crop when available. The successful beekeeper knows that he must have populous colonies, boiling over with bees, at the right time.

A big honey crop doesn't just happen. It is usually the result of careful planning in advance of the time the crop is harvested. The majority of beekeepers, commercial and back-lotters, know what it takes to secure a good crop of honey but not all are willing to pay the price it takes, in intelligent apiary management.

Instead of fussing around with a lot of hives of bees, some of which make a bare living during the season, the time is here when beekeepers who are in business for profit must concentrate on attaining the necessary proficiency in apiary management that will result in securing the maximum crop when it is available.

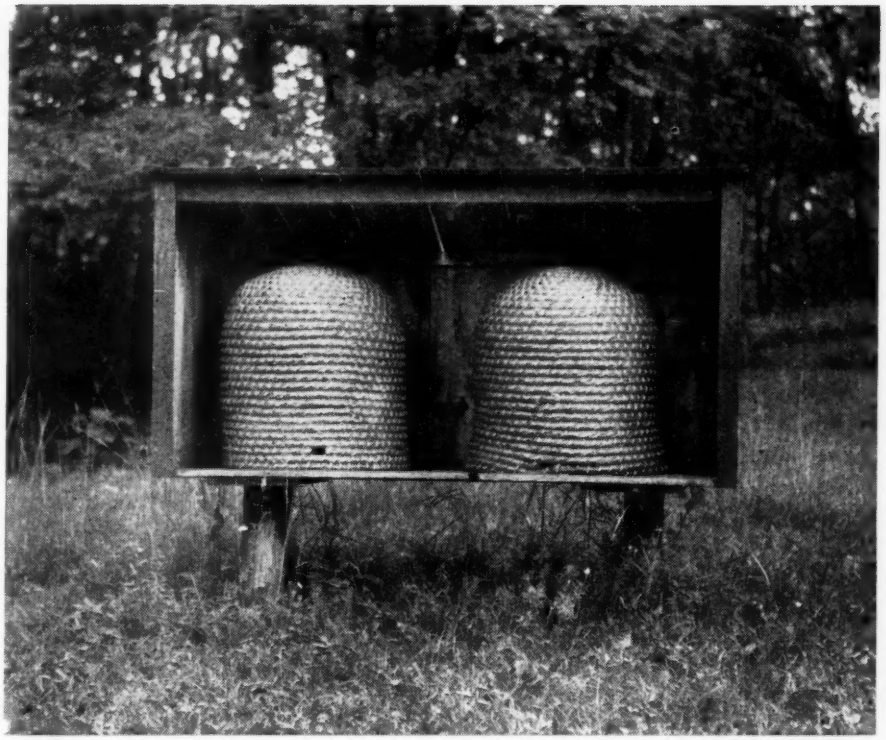
The old slogan, "Plan your work, then work your plan", certainly applies to beekeeping today.

XUM

NEWS

Left: Miss Valeria Redmann, the Wisconsin Honey Queen for 1958. She was one of three state queens who attended the recent Federation meeting in Columbus, Ohio. — Photo by Carter Hanson Studio.

Below: Interior of the honey house. The queen-cell building colonies are inside. — Photo sent from Queen Breeding Station, and by Wilh. Rager, Oslo, Norway.



At John Greenleaf Whittier's birthplace near Haverhill, Mass., two old-fashioned bee skeps made of straw may still be seen. They were the inspiration for Whittier's poem "Telling the Bees". In this poem Whittier refers to an old New England custom which formerly prevailed in rural districts. On the death of a member of a family, the bees were at once informed of the event and their hives were dressed in mourning. This ceremony was supposed to be necessary to prevent the swarm from leaving and seeking a new home. In addition to the beehives a number of the objects described in the poem may also be seen at Whittier's birthplace—the well sweep, the gap in the old wall, and stepping stones in the shallow brook.

A queen bee may be marked for identification by painting her thorax with a quick-drying paint. A bright-colored nail polish serves this purpose very well.—U.S.D.A. photo by Forsythe.

Let's Talk about Honey Plants

HARVEY B. LOVELL,
University of Louisville,
Louisville, Ky.

Redbud
(Cercis canadensis)

I ATTENDED the annual meeting of the American Beekeeping Federation at Columbus during the last week in January and the following data were obtained by talking with beekeepers at that time. Many of the best known beekeepers and research workers in apiculture were present, and it was a great privilege to meet so many of them.

William M. Wicht, Hattiesburg, Mississippi, told me that his bees sometimes make as much as a deep super of honey from redbud or Judas tree **(Cercis canadensis).** The honey is reddish in color with a good flavor. Tung trees are being planted in large stands in southern Mississippi and make a great showing when in bloom. Bees work them to some extent and store a small amount of light amber honey with a good flavor. Mr. Wicht also reported that the honey from spring ti-ti has a strong flavor and smells like a dead rat. There are a few sourwood trees all over the state but never enough to produce a recognizable honey. Why does not some one plant a grove of them?

Henry Rodenberg, Jr., Wolf Point, Montana, has obtained honey from American vetch, a wild species not uncommon in his area. There was more rainfall than usual in 1953 and vetch grew very luxuriantly and produced considerable honey. This wild vetch climbs over bushes and low trees on waste land. Chokecherry gives a few days flow in the latter part of May and the honey is white to light amber with a good flavor. There is a lot of buckbrush or snowberry in Montana but the honey has quite a "wang". It also has a strong odor when being extracted. Rosinweed gives a red honey and is so strong that it even hurts one's throat.

Wesley W. Osborn, Hillsboro, Illinois, brought his own honey to the meetings and used it liberally at every meal. He showed us his bottle of amber honey made from heart's-ease which was nearly empty and said it was the second bottle he had used on the trip.

W. W. Clarke, Extension apiarist from Pennsylvania, told me that in northcentral Pennsylvania, beekeepers sometimes make a small surplus from Herculus club **(Aralia spinosa).** The honey is white with a bitter flavor, but the flavor improves if the honey is allowed to stand for a year or longer.

Millard Coggshall, Minneola, Florida, brought me a jar of sunflower honey in the comb made in southern Florida. The honey is a deep yellow and so is the comb. Some honey had run out of the comb and had crystallized in the bottom of the jar. The flavor was different but quite pleasant and three people who tasted it all said they liked it.

Jordain de Muth of Clewiston, Florida, reported that the honey from cabbage palm with 20 to 22 per cent water frequently fermented, but that honey from black mangrove with 24 per cent water does not ferment. He described mangrove honey as having a bitter flavor but that it was easily disguised by blending with saw palmetto or gallberry honey. He said they also got honey

from pussley (**Portulaca oleracea**) a low creeping weed on waste land (not to be confused with Mexican clover often called pussley).

Henry Sager, Holly, Michigan, is finding spotted knapweed (**Centaurea maculata**) very common at one of his locations. He put bees on it and made some fine honey with a light yellow tint which graded white. He calls it star-thistle honey, an appropriate name, as the famous western star-thistle is also a **Centaurea. Roy Grout,** the honey judge, gave this honey first place in the Michigan State Fair, a good indication that this plant should be carefully watched and bees placed on it where it is abundant. When planted in cultivated plots, the flowers became large and showy.

Victor Wesley, Kemptville, Ontario, told me that there is considerable viper's bugloss or blue thistle in southern Ontario, where it has spread from northern New York and is becoming an important source of mild white honey. In some areas of the province bugloss and basswood are the main sources of surplus.

Dr. J. P. White explained to me that he is doing some 16 tests on each honey sent him and that he has already received over 200 samples from American beekeepers. For the more common honey plants he already has enough samples, but he is still anxious to receive a small sample of about half a pound of some of the less widely distributed species. He has already received several kinds which I have not yet seen such as Crotalaria and mountain laurel. Anyone having unusual varieties of honey, mail them to the Eastern Regional Research Laboratory, Philadelphia, and help in this important project.

BREEDING AND GENETICS

reported by ROGER B. BOREN, Assistant State Apiarist of Kansas

Taken from Kansas Beekeeper, January 1958.

A VARIETY of interesting papers were presented to the Apiculture Section of the Entomological Society of America which met in Memphis, Tennessee during the first week in December, 1957.

Dr. Walter C. Rothenbuler and Mr. Victor Thompson of Iowa State College had papers dealing with the hereditary factors involved in American foulbrood transmission. They found that there was a very great difference in the length of time that larvae which had died of American foulbrood were allowed to remain in a comb. It was discovered that bees in colonies known to be resistant to the disease removed the dead brood within about a week, whereas bees in susceptible colonies removed very little dead brood by the end of two weeks.

Drones from these resistant and susceptible stocks were used in further experiments to determine if larvae varied in resistance to disease, and if hereditary characteristics helped in determining this resistance. One queen was instrumentally inseminated with sperm from a normal-eyed drone from resistant stock and also with sperm from a green-eyed drone of a susceptible stock. This susceptible drone carried a dominant gene for green eyes. The worker bees fathered by the resistant drone had normal eye appearance, while those fathered by the susceptible drone had green eyes and so were easily distinguishable.

When no disease was present the normal-eyed worker bees made up approximately 50 per cent of the colony and the green-eyed workers accounted for the other 50 per cent of the population.

However, when brood from this queen was infected with American foulbrood, it was found that larvae from the susceptible drone were more affected by the disease than were those fathered by the resistant drone. This was shown by the fact that more normal-eyed workers emerged than did green-eyed workers.

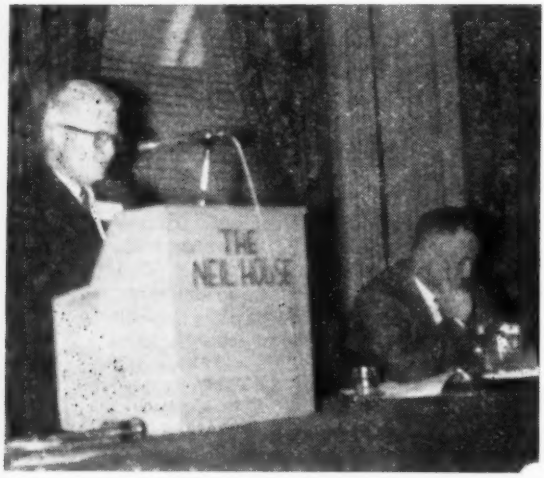
Doctor Rothenbuler pointed out that (1) adult bees vary in their mechanical action toward infected larvae and (2) larvae differ in their physiologic resistance to the disease. Both of these factors should be incorporated in the programs of breeding bees for resistance to American foulbrood.

Highlights of National Federation Convention

THE FIFTEENTH Annual Convention of American Beekeeping Federation held in Columbus, Ohio, January 27 to 31st, 1958 drew an attendance of over 300 people from 36 states and three Provinces of Canada.

The various committees of the Federation met on Monday, January 27th to get their business transacted prior to the beginning of the program next day.

Following the sounding of the gavel by President S. J. Watkins, and the invocation by Rev. Jack Lunsford, the address of welcome was given by James R. Hay, Director of Agriculture of Ohio.



Mr. S. J. Watkins, President opens the annual meeting.

In President Watkins' address he mentioned the comparatively low per capita consumption of honey and the need for solving the honey marketing problems in order to increase sales.

Woodrow Miller of Colton, California, in his key-note speech said that from 30 to 40 per cent more honey is now under the purchase agreement than a year ago. Some honey packers in California have quit, due to present conditions. Woodrow Miller's father, with the help of his sons, operated 32,000 colonies years ago.

Marvin Webster of the Fruit and Vegetable Division of United States Department of Agriculture reported on his visit to the A.N.U.G.A. honey exhibit in Cologne, Germany recently and urged greater care in straining exported honey.

Germany imports about 20 million pounds of American honey each year. It seems necessary that we display our honeys so that the Germans may know what we have for export. We should know more about the buying pattern of Germany.

Harold J. Clay's talk on "The Loan and Purchase Agreement Program for Honey" appears on page 169.

Mr. Marvin Webster of the Fruit and Vegetable Division of the U.S.D.A., reports on his visit to Germany.

Royal Je'ly — Pro and Con

Leslie Little, Shelbyville, Tennessee, a producer of Royal Jelly brought us some information on the technique followed in producing R. J. The method is similar to that of producing queen bees; the difference being that in royal jelly production the jelly is removed from the queen cells on the second or third day of larvae development and stored in suitable containers; in queen rearing the larvae in the cells are per-

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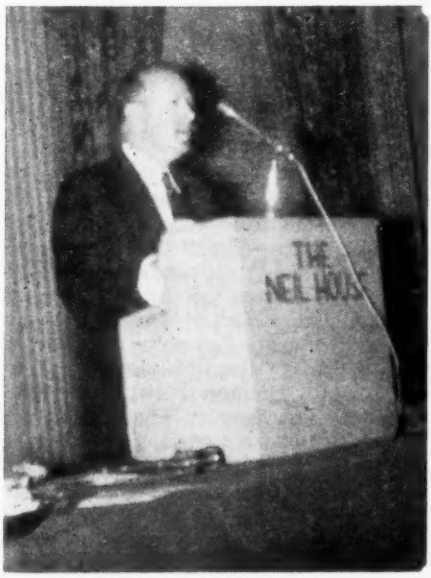
C. D. Floyd, Chairman of Marketing Committee, speaking.

mitted to develop into queens. Colonies devoted to jelly production should be very populous.

It is estimated that 1,000 pounds of R. J. were produced in 1956, and 2,000 pounds in 1957. No work has been done to determine the difference, if any, in the quality of R. J. produced in different locations.

Future users of R. J. may require more definite information on this product. Unwarranted claims for royal jelly are not good for our industry. The American Medical Association now has three chemists working on this product.

Clarence Benson, chairman of the Research Committee.



The prevailing prices on R. J. range between $9.00 and $17.00 per ounce.

Robert B. Willson in his brief review of the history of R. J. mentioned work done by Dr. Townsend of Guelph, Ontario, also work done in Europe. It is estimated that $750,000.00 worth of R. J. was sold in 1957. It is claimed by some doctors in Europe, who have conducted experiments on using R. J., that it has been found helpful for old and ailing people, in that it stimulates the appetite, increases red corpuscles, also metabolism. Time will tell whether or not the alleged benefits attributed to R. J. are warranted.

The Hobbyist's meeting chairmaned by A. R. Dean of Pennsylvania result-

Woodrow Miller, Colton, Calif., making the keynote speech.

The Governor's wife at left receiving a gift package of honey from the honey queens.

ed in a healthy discussion on hybrid queens, spray poison and royal jelly. Roy Grout, Hamilton, Illinois explained the technique used in producing four-way hybrid queens. It seems necessary to requeen periodically to prevent deterioration of the strain.

Spray poisons may be harmful to bees, but it is necessary to present definite proof that bees found dead were killed by poison spray.

Dr. Gordon Townsend of Guelph, Ontario spoke on honeybee alergies and their treatment. It is the protein in the bee venom that may cause trouble a few hours after being stung. People who are allergic to bee stings should if possible, avoid being stung. Those who are affected seriously when stung should remove the stinger immediately; take adrenaline, then call a doctor. [An article entitled "The Prevention of Severe Reactions following Stings of the Honeybee", by Frank W. Schofield, D.V.Sc. appears on pages 402 and 403 of July, 1957 issue of Gleanings. We have some reprints of this article available for the asking.]

An interesting panel discussion was led by Ken Bradshaw on the check-off plan. Remarks by A. A. Greenwood, United States Department of Agriculture, on the check-off plan appear on page 171 of this issue.

The banquet Thursday evening, with Dr. E. J. Dyce of Cornell University as toastmaster was an enjoyable occasion. It provided the opportunity to become better acquainted with people from all over the United States and Canada.

The women's organization, The American Beekeeping Federation Auxiliary met for tea and a tour of the Governor's Mansion as guests of Mrs. O'Neil, wife of the Governor. Mrs. Alan Root, Medina, Ohio, extended greetings from the Ohio Auxiliary. Mrs. Ester Piechowski of Wisconsin, made a talk on "Choosing a Honey Queen the 4-H Way", after which the honey queens from Wisconsin, Tennessee, and Ohio were introduced.

The following officers of the Federation were elected for the coming year: S. J. Watkins, Grand Junction, Colorado, President; Lawrence R. Budge, Malad, Idaho, Vice President; and Robert Banker, Cannon Falls, Minnesota, Secretary-Treasurer. The Executive Committee consists of G. C. Walker, of Texas, H. R. Swisher of Ohio, and Leslie H. Little of Tennessee, in addition to the officers.

Next year's meeting of the Federation will be held in Tampa, Florida.

Honey Price Support Program

(Talk by HAROLD J. CLAY given at meeting of American Beekeeping Federation and allied groups, Columbus, Ohio, January 28, 1958.)

TODAY THE Honey Price Support Program is widely known about, and generally understood. Beekeepers who need money early in the season with which to pay pressing obligations can get it at a low rate of interest by placing their honey under loan if it meets certain specifications. For the 1957 season some 64 individuals placed over two million pounds of honey under loan, with perhaps another million pounds from 20 more beekeepers not yet fully reported; and over one million pounds are recorded under purchase agreement. That would seem a big lot of honey if it were all collected together at one point, but after all it is less than two per cent of the total crop. Repayment of the loans has not been rapid, but maturity date is not until April 1, and those with honey under loan are no doubt still hoping for the anticipated price increase that has been lagging behind. I, too, hope it comes, for Uncle Sam would prefer not to take over any honey, just as we are happy about not acquiring any honey for the past three years.

If anyone here is in doubt as to how long the industry will retain price support, let me remind you that Congress has twice expressed its approval of the program by placing honey in the nonbasic mandatory group of commodities, to be supported at 60 to 90 percent of parity; and that such a program will therefore continue until Congress votes it out.

Honey Market News Report

The Honey Market News Report is certainly among the best known Department aids to the beekeeper, but it may not generally be realized that it is one of the very oldest. It goes back, in fact, to 1917, over 40 years ago, when Dr. Frank Phillips, then Department Apiarist, came into my boss's office one morning. Doc was incensed over what he called the crooks among the honey dealers gypping the helpless beekeepers who were at their mercy, as he said. "When your market news reporters in large cities get trade information on fruits and vegetables—arrivals, and prices and conditions of the produce, why can't they at the same time get similar information for honey? Then you can put out the information in a bulletin that can go to beekeepers, and they will have the facts when a crooked buyer tries to beat down the price." It was agreed to follow out Dr. Phillips' request.

To reminisce a little, I had then been in market news work over a year, and the job was turned over to me. It helped that I had taken courses on bees at Massachusetts under Dr. Burton Gates. Before long, news from producing areas was added to that from city markets, and that type of information proved the most valuable part of the report, thanks to the beekeepers supplying the news. Some of you in front of me have been faithful reporters for years, and though I have not been directly connected with the report for 15 years, I do see the material sent in, and I want you to know that I appreciate your cooperation. I am sure the present editor of the report does, also. The honey market report has for many years also carried import and export statistics, secured from the Department of Commerce (another helpful Government Agency), and it gives other useful figures as they are obtainable.

Honey and Beeswax Production and Price Statistics

The industry would find it difficult to get along now without the reports issued by the Division of Agricultural Estimates in Agricultural Marketing Service under Paul Smith—the annual State-by-State records of honey production, colony count, stocks on hand, and prices to beekeepers; and the production and price reports on beeswax. For that matter, we in price support activities would be handicapped without them, too. The October preliminary estimates are very useful, also. Then, the July estimates of bee population, of how the bees came through the winter and spring, and the condition of nectar-bearing plants, are also

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read carefully. These all, of course, are the result of the participation of thousands of beekeepers. The package bee and queen production report, issued for years, was dropped, I understand, because the Department never was told by the industry that it was needed or useful, and it cost too much to secure the information if it served no real need. Maybe you will be requesting statistics on Royal Jelly soon!

Inspection, Better Grades, and Better Containers

The price support program has been instrumental in improving the quality and cleanliness of the honey which beekeepers deliver to the buyer. This is especially true in the Far West. In the early days of price support, when honey was required to meet a minimum of U. S. Grade C to justify support prices when sold to bottlers, packers called me from California saying they were being deluged with deliveries of honey that was too dirty to meet grade requirements. So in such cases we authorized deduction of a processing charge from the packers' payments to the beekeepers. There is less of that poorly strained honey offered these days, though occasional beekeepers do try to place under support, honey that contains too much debris to pass U.S. Grade C. What 30 years of passive offering of U. S. grades, and grade terminology, had not done, the call to the pocketbook accomplished, and today many beekeepers can talk intelligently in terms of turbidity, cleanliness, substandard honey and moisture content. Millions of pounds of bottled honey are sold yearly under the label of U.S. Fancy or U.S. Grade A, assuring customers of a product suitable for immediate use without further straining. Much more care still needs to be taken, however, with honey destined for the baking trade and for export if U.S. honey is to receive the praise its innate desirability deserves, and if bakers are to receive the sort of honey that their specifications require. But it will be worth while to give that extra care if it results in additional permanent outlets for millions of pounds of honey.

In our early price support program we had trouble with 60's that were second-hand—and perhaps fifth-hand. In one well-remembered instance Marvin Webster was lifting a can by the handle, at a beekeeper's house, when the entire rusted top came off in his hand. Before long we agreed to take only honey in new containers, and the movement of honey in new cans became more general.

Research Work in Many Fields

With Jim Hambleton here, certainly it would be futile and needless for me to say anything about what the former Bureau of Entomology is doing for the honey industry. Most of you know, anyway, about the work going on in Jim's far-flung laboratories at Beltsville and elsewhere throughout the country in connection with bee-breeding for specific factors, package bee and queen bee problems, bee disease studies, and pollination. Jim has never been given adequate recognition by either the Government or industry for his tirelesss efforts in spreading the story of the need for bees for the pollination of so many important agricultural crops.

Fortunately, also, Dr. Jack White is here to tell you of his work at Philadelphia on the composition of American honeys, and I hope may also review some of the previous experimental work, such as that done at the Kansas State laboratory, on the use of honey in various types of baked goods. Thus his talk will also, in a way, be an extension of the subject of my conversation with you here.

Promotion by the Industry

I have spent most of my allotted time chatting about what the Department is doing for beekeepers. It may not be out of line for me to conclude by asking what the industry is doing to help itself, or is planning to do, other than through the very able promotional campaign carried on by the American Honey Institute. We in Washington, at least, have heard or seen little during the past year of the sort of commodity promotion—that is, promotion of honey—that has been so widely evident with many other foods.

May I suggest to packers that while money spent, or wasted, in cutting prices, or in providing premiums or deals, may take a certain market outlet

(Continued on page 190)

The Check-off System – A Compliment to the Honey Price Support Program

Remarks of A. A. GREENWOOD, Sugar Division, CSS, U. S. Department of Agriculture, Annual Convention American Beekeeping Federation, Inc., Columbus, Ohio, January, 28, 1958

DURING 1955 and 1956 the honey industry marketed its production with only minor assistance from the price support program. In those years all loans were redeemed. One has to go back to 1953, in fact, to find a year in which it has been necessary for the Government to take over any honey.

I am sure that the reason for this lies in great part in honey sales promotion. Your industry deserves commendation for its recognition of the need for this promotion and for the fine efforts of some of your members in this regard. That's looking back.

As we look ahead there's an even bigger job to do. Much more promotion is going to be needed because the quantity of honey now under loan from the 1957 crop may be larger than that for any crop since 1952.

I am sure you want your honey to find a market, the best possible market. You want to see honey used by bakers, candy makers, manufacturers of ice cream, cereals, and cake mixes and by other food processors, and—above all—you want the housewife to buy honey and put it on the family table.

The price support program is no substitute for a marketing program. The price support program for honey is intended simply to provide interim financial assistance to beekeepers where needed to enable them to market their honey in a more orderly manner.

When the honey industry announced the inception of the Check-Off Plan two and a half years ago, I was impressed by the implications of this self-help program. The undertaking seemed to complement the Government price support program in a most promising manner. I still feel that way.

An outstanding example of farm people helping themselves in promoting their product is the American Dairy Association. It started in the Northwestern States in 1940. Today the American Dairy Association promotes milk and milk products through a nationwide program of research, public relations, advertising, and merchandizing. It is a dairyman's organization financed by a two cent per hundredweight check-off from milk checks in 46 States. Its 1956 budget provided for the judicious expenditure of five and one-half million dollars of check-off money. More than four and one-half million dollars went into advertising through television, radio, magazines, newspapers, trade and farm publications, the Disneyland Park program, and merchandising materials and contracts. More than half a million dollars went into research and professional education.

Although their check-off works in nearly every State, many billion pounds of milk remain to be brought under the program. The American Dairy Association's 1957 budget was almost one and one-quarter times as big as the 1956 budget and amounted to nearly seven million dollars. They promote milk and milk products without regard to brand and leave the field of brand advertising to milk processors and dealers.

The gross farm income from dairy products is about one hundred times the value of honey and beeswax production at the beekeepers' level, and it is necessary to recognize profound differences between dairymen and beekeepers, but—is there any reason why beekeepers cannot similarly finance an annual promotion program of $60,000 to $70,000—about one-hundredth the size of the American Dairy Association program?

Your Check-Off Plan, as developed in 1955, was on a matching basis. The

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Plan was for dealers and packers to forward two cents per 60-pound can to the Honey Industry Council. One cent of this contribution would be deducted or "checked off" from the dealer's or packer's payment to the beekeeper and the other cent would come from the dealer or packer himself.

The matching of funds by the packer or dealer appears at first to be an equitable sharing basis—but is it? I am inclined to agree with the statement I quoted a few minutes ago to the effect that a promotion organization can contribute the background against which companies can improve their sales, but "the real job of selling is a company job". And so it is with the honey packer or dealer. He must market his particular brand of honey and this limits the amount of money he can afford to spend on promoting honey in general.

This is not to suggest that the dealer's or packer's present contribution should be reduced—he can still provide as much or more, dollar-wise as before—but might it not be well for the producers to boost their part of the kitty a bit?

Your one-cent-a-can Check-Off Plan is based on a contribution of little more than one-tenth of one per cent of the beekeeper's honey receipts, since a 60-pound can tends to bring around $8.00 on the average. By contrast, the dairy farmer's check-off for the American Dairy Association is almost four times as high. His two cents per hundredweight of milk check-off amounts to about four-tenths of one per cent of his milk receipts.

The beekeepers who market their honey within California have for some time been in the habit of making a seven-cents-a-can contribution to the State Honey Advisory Board. They have been paying this levy of about seven-tenths of one per cent of the value of their marketings and there would appear to be no reason why a check-off of the same size should not be paid on honey marketed through packers or dealers in other States and on California honey which moves in interstate and export trade.

If you could get this contribution on one million cans, that is, on 60 million pounds or only about one-fourth of total national honey production, you would have the $70,000 fund referred to earlier.

It should be noted also in this connection that this type of contribution is a tax-deductible business expense. Considering the Federal income tax and the State income taxes levied in most States, your net, out-of-pocket contribution would in most cases not be more than five cents per can or about five-tenths of one per cent of your gross honey receipts.

Finally, permit me to mention one more aspect of the Check-Off Plan. Many people in the honey industry have been supporting the Honey Institute for quite some time. The objectives of the Check-Off Plan are similar to those of the Institute. A systematic Check-Off Plan would substitute the truly cooperative principle of sharing a necessary outlay in proportion to business volume or patronage for the unsystematic and in many ways inequitable methods followed in the past. Perhaps further consideration should be given to a Check-Off Plan which would neithor ignore nor duplicate the Honey Institute program, but would coordinate its fund-raising as well as its fund-disbursing activities—in short, its entire program—with the Institute.

If all beekeepers who sell honey in 60-pound cans authorize their buyers to make a deduction of seven cents, or some lesser rate, per can from their payment, and all packers and dealers also participate at a given rate, the necessary sacrifice will be far more equitable than if promotion is financed from contributions made without direct regard to volume of business.

Since the Honey Institute has long enjoyed the support of beekeepers, packers, dealers, and supply houses, it may be considered a focal point where the interest of all in honey promotion is maintained and where they cooperate in promoting honey.

Let me summarize my three principal points. It seems to me that you should decide whether you wish (1) to attempt to revitalize the present Check-Off Plan; (2) to raise the Check-Off rate to something more in line with the assessment rate under the California Marketing Order for Extracted Honey; or (3) to coordinate your Check-Off

Plan with the existing efforts of the Honey Institute and of the California Honey Advisory Board. You may find it advisable to substitute a lump-sum contribution from the Check-Off Plan to the Honey Institute for individual contributions. The Check-Off Plan is a cooperative, equitable way of raising funds and should muster resources considerably in excess of current contributions to the Honey Institute.

Our modern economy is complex. Consumers are typically far removed from producers. Many of you cannot solve your merchandising problems by marketing your honey to neighbors or by your personal visits to grocery stores in your community. Formerly, we were a rural people. Now most of the people of the United States live in cities and in suburbs and are beyond the personal reach of beekeepers. It requires experts and specialists to make the majority of our people "honey conscious". Moreover, it is in the large Eastern population centers where honey consumption is so low. The point of attack for promotion and advertising lies there.

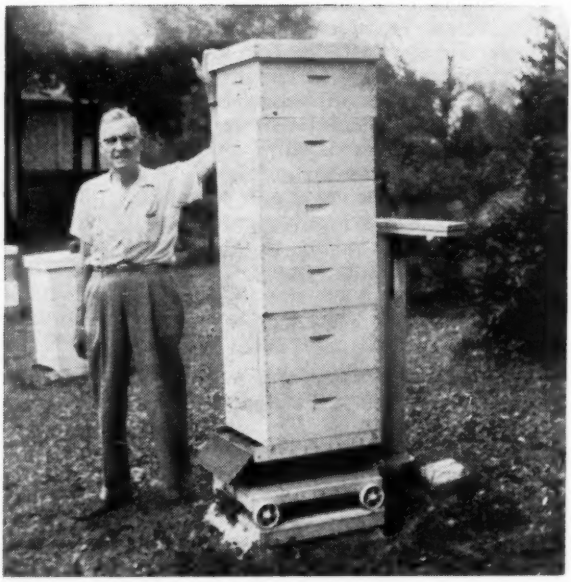
Looking beyond our domestic market there is Germany where the liberalization of honey imports during the past year has created new marketing opportunities. There are virtually unlimited possibilities for promoting honey if you only provide the means for doing the job.

WALT DISNEY'S True Life Adventures
SWEET SORROWS
A WHIMPERING CUB LOVES HIS STOLEN HONEY, BUT THE OUTRAGED BEES ARE GIVING HIM A ROUGH TIME.
BUT AS HE GROWS OLDER HE DEVELOPS PROTECTIVE LAYERS OF THICK FUR AND FAT WHICH ENABLE HIM TO PLUNDER A HIVE WITH LITTLE DISCOMFORT.

A Talk to Beekeepers

M. J. Deyell

With Special Reference to Beginners' Problems



Jack Deyell beside the Gleanings scale hive which he visits every morning. This is how it looked at the close of the 1955 honey flow. It gave a surplus of 160 pounds.

ALONG ABOUT this time of the year beekeepers who are really interested in their bees become anxious about the condition of their colonies, especially apiaries some distance from home. Yesterday, February 13th, I visited a couple of apiaries and found the fronts of some of the hives spotted with dysentery. Bees in this part of Ohio have not had a cleansing flight since late December. For the past week or ten days the mercury has been down close to zero each morning. This morning February 17th the mercury had dropped to nine degrees below.

Bees wintered out-of-doors really should have a good cleansing flight at least twice during the winter. If they don't, some of the colonies that are not quite up to par in strength may succumb to dysentery before spring.

Close Entrances of Hives Containing Dead Colonies

We should visit our yards on a day when the bees have their first cleansing flight, and close the entrances to hives in which colonies have died during the winter. Regardless of how well the bees were prepared for winter there may be a small percentage of winter loss. Once in awhile we have an apiary that comes through 100 per cent.

Just why queens in a few colonies fizzle out during the winter, I am unable to say, especially when these queens appeared to be in normal condition the previous fall. Such colonies, if fairly populous and have some young bees left, are usually worth requeening. However, such colonies are likely to consist mainly of old bees that die off quickly and it is usually inadvisable to put in new queens. If there is honey in the hive this can be used for other colonies that need it. Be sure, however, the loss of the colony was not due to A.F.B. To use diseased combs of honey would spread the disease.

When bees start to rob in the spring they will usually continue robbing for a time and will sometimes pounce onto a colony that is not up to normal strength, over-power it, and rob out all the honey in the hive. Such a condition makes it difficult to manipulate hives during the spring and that is one reason for closing up dead hives as soon as they are found.

In most cases the winter losses of

colonies are due to starvation. The owners of the bees have failed to leave an adequate amount of honey for the bees in the fall, consequently they perish during the winter.

Feed if Necessary

In the North, March is a critical month for bees. If stores are getting down to the vanishing point in any colony it should be fed. Combs of honey saved for feed should be put into such hives, exchanging them for empty combs.

If no combs of honey are available, such colonies should be fed sugar syrup. A simple method of feeding consists of filling a five or ten pound honey pail with sugar syrup made by dissolving two parts of granulated sugar to one part of hot water until the granules are liquefied. The lid of the pail should be perforated with a two-penny nail, making about a dozen holes. After the lid is put on the pail of syrup it should be turned upside down over the hole in the inner cover after the center block has been removed. If the hive has no inner cover, invert the pail of syrup over the frames. If the weather is cool the syrup should be fed while warm or almost hot. It is an advantage to put some burlap sacks or similar material over and around the pail of syrup to retain some of the heat. An empty hive body is placed on the inner cover to protect the pail of syrup, then the regular hive cover is placed on top.

How Colonies Develop in the Spring

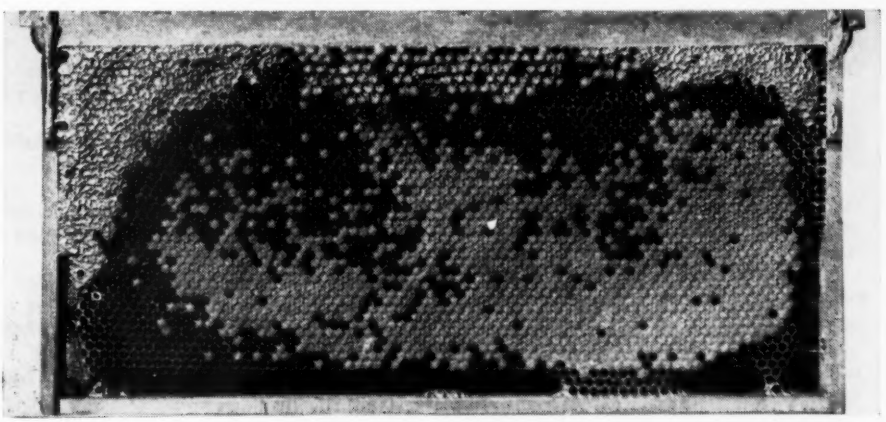
In this latitude queens usually begin laying a few eggs the latter part of January or early February. I have looked into normal colonies of bees the middle of February and have found small patches of brood in three combs. The brood in the middle comb was about the size and shape of my hand, which is fairly large. The two adjacent combs contained smaller patches of brood. I usually find a few emerging young bees in the middle comb, which tells me the queen started laying the last week in January, since it takes three weeks from the time an egg is laid until a young bee emerges.

During February some of the bees in the colony that were born early the previous fall are now becoming old bees. The young bees emerging from the combs will take the place of the old bees that die off.

I have noticed that when a colony develops to the point where it has more than three combs of brood it will increase in strength quite rapidly, provided of course, pollen and nectar are available and the weather is suitable for bee flight.

Pollen is Necessary for Brood Rearing

Pollen stored in the brood chamber during late summer and early fall is packed into cells near where young bees are emerging. The cells are about half-filled with pollen, then honey from the late fall flow is put on top of the pollen, then the cells are sealed over. This honey preserves the pollen for use the following spring. During a cool spell of spring weather when bees are unable to leave the hives to collect



A comb containing capped honey in the upper corners, drone brood at the top and worker brood below.

pollen, they consume the honey covering the pollen stored the previous fall and thus the pollen is uncovered and made available to the bees. This makes it possible for bees to continue brood rearing in the spring, even though there may be cold spells of weather occasionally.

In some areas there may not be a fall pollen flow, consequently, it may be necessary to feed a pollen supplement or substitute the following spring, especially if the weather is cool enough to prevent bees from collecting pollen from natural sources. It is said on good authority that one pound of pollen is required to produce one pound of bees and approximately one comb of honey is required to produce one comb of brood.

By referring to the accompanying picture you will note honey in the upper corners of the comb and worker brood in the center and lower portion of the comb. The upper portion of the comb, near the top bar, contains drone brood. A queen lays two kinds of eggs, fertile and unfertile. The fertile eggs develop into worker bees and the unfertile eggs into drones. Twenty-four days are required for an unfertile egg to develop into a drone bee.

Early in the spring a queen begins laying near the center of the brood chamber and when the weather is cool she restricts her egg laying to a comparatively small area of the combs. A brood nest is egg-shaped at the beginning of the season. When the weather becomes warm a queen will sometimes occupy an entire brood comb in egg laying.

When we find drone brood during the spring we know that later on in the season this colony, if it becomes congested for lack of comb space, it may send out a swarm. The drones are needed to mate with virgin queens that emerge from swarm cells.

AN INVITATION 1928 - 1958

YOU ARE cordially invited to join with all the friends and members of the American Honey Institute in the year-long celebration of its 30th birthday anniversary on March 28.

When your birthday gift of one dollar sent to the American Honey Institute, 114 North Carroll Street, Madison 3, Wisconsin is received, you will be sent a brand new Birthday Cake Recipe accompanied by an attractive picture of the cake.

By this contribution you will show yourself to be vitally interested in honey promotion.

You will be proud to feel the strength of your organization when you find your name listed in the 30-year Birthday Booklet, along with the names of all your co-workers in the United States and Canada who have contributed to this anniversary gift fund for A.H.I.

These Birthday Booklets will be distributed at the next national meeting of the American Honey Institute.

Send in your one-dollar birthday gift now and be among those who **count**—who count on honey, who count on honey sales, and who count on the American Honey Institute.

Ways to Kill an Organization

From New Jersey Beekeepers' Association News

1. Don't go to any of the meetings.
2. But if you go, go late.
3. Don't be sociable either within or outside the organization.
4. If you do attend, find fault with the work of the officers and members.
5. Never accept an office. It is much easier to criticize than to do things.
6. Get sore if you are not appointed on a committee. Should you be appointed, don't attend any of the meetings.
7. If asked to give your opinion on some matter, tell the chairman you have nothing to say.
8. Do nothing more than is absolutely necessary. When others roll up their sleeves and unselfishly use their ability to help others along, howl that the organization is run by a clique.
9. Hold back your dues as long as possible, or don't pay them at all.
10. Make no effort to get new members for the club.
11. If you should get a good idea, smother it at once.

Blue Bird Body Co. House organ

A Condensation of Resolutions Passed by The American Beekeeping Federation, Inc., at Its Convention Held at Columbus, Ohio, January 27 through February 1, 1958

No. 1 - Expressing sympathy to family of Glenn Jones.

No. 2 - Thanking local committee for assistance.

No. 3 - Thanking Neil House for services and facilities.

No. 4 - Thanking Chamber of Commerce.

No. 5 - Thanking Ohio Beekeepers' Association, Hosts to Convention, for assistance.

No. 6 - Requesting 80% of parity for Price Support Program for '58.

No. 7 - Requesting an Export Subsidy of 2½c per pound on honey.

No. 8 - Requesting removal of Price Differential Provision of the Price Support Program between eastern and western states.

No. 9 - Requesting Packers and Dealers to make automatic deduction for the "Check-Off" Plan.

No. 10-Requesting the establishment of an import quota for honey.

No. 11-Requesting expiration date of loans on honey under 1957 program be extended three months and a resealing provision be included in future programs.

No. 12-Inviting American Committee of Bee Research Association to cooperate with the Federation Research Committee in presentation of a Research Program.

No. 13-Requesting appointment of Joint Committee from Apiary Inspectors and Federation to investigate sources of funds and assist in obtaining funds to study the problem of acarine mite.

No. 14-The American Beekeeping Federation goes on record as approving research to determine therapeutic, cosmetic, and food value of Royal Jelly and to discourage further unsubstantiated publicity on Royal Jelly.

No. 15-Encourages the adoption of State Marketing Orders to publicize value of honey.

No. 16-Request officials in the United States Department of Agriculture to take responsibility for planning and execution of research involving use of agricultural chemicals for developing recommendations that will preclude serious damage to honeybees and other pollinating insects and that all recommendations, reports, bulletins and press releases warn against dangers involved in uses of chemicals, formulations and methods of application that are hazardous to bees.

No. 17-Requesting support of Research Committees to have established in California a United States Department of Agriculture Laboratory for studies on bee losses due to insecticides and pollination problems.

No. 18-Requesting officials of the U.S. Department of Agriculture to take into full account the hazards of any agricultural chemicals to insect parasites and predators and give increased emphasis to research on use of biological control agents, either in place of insecticides or if necessary in conjunction with them and further the use of insect pathogens should be fully explored.

No. 19-Thanking R. B. Willson, Inc., Superior Honey Co., R. D. Bradshaw and Sons, and T. W. Burleson and Son for adoption of automatic deduction phase of the Check-Off Plan and thanking Sioux Honey Association for its cooperation.

About the Redwoods Article

REFERRING TO the article, "Beekeeping Among the Giants", in December, 1957, Gleanings, Mr. Curtis Woodruff has received quite a number of letters about the stock he has and states that he may eventually succeed in preserving that strain of bees.

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Just News

The **Westchester County (N.Y.) Beekeepers' Association** will hold its next meeting at the Odd Fellow's Hall, 20 Lockwood Ave., New Rochelle, N. Y., on Sunday, March 16 at 2:30 P.M. At this time our expert beekeepers will give a demonstration on assembling a hive and also how to install package bees. We hope to acquire our sound projector by this meeting. Visitors and guests are cordially invited, as we would like to increase our membership. Delicious refreshments will be served at the close of the meeting.—Mrs. Alfred Roth, Pub.

A Bee-Repelling Insecticide — Research at the Oklahoma Agricultural Experiment Station shows that a new compound, called Hydroxyethyl-tert-octyl sulfide, looks promising as a repellent to keep bees away from fields eight to 48 hours after they have been sprayed with a deadly insecticide. Further tests are under way to find out if the repellent affects seed or fruit production. In experiments this year, the repellent did not injure either cotton or cantaloupe plants. The Oklahoma researchers believe that if the new material continues to prove successful, its value in saving bees from freshly treated fields would be immeasurable. They further state that their findings would be particularly applicable to alfalfa as well as other crops that depend on good pollination for proper seed development.

The next meeting of the **Middlesex County Beekeepers' Association (Mass.)** will be held on Saturday, March 29, 1958, at the Waltham Field Station. A pot-luck supper will be held at 6:30 P.M. followed by a business meeting. At our February meeting, our speaker was Mr. E. L. Burbank, Jr. who gave an interesting talk and demonstration on "Fire Prevention in the Home". —L. C. Proctor, Corres. Sec.

Howard A. Pike state apiarist for Rhode Island, retired January 10 after 23 years of service as apiary inspector. Mr. Pike has become the state's best known expert on bees. He started his beekeeping career at the age of 37 and worked for the York Bee Company for several years transporting bees from Georgia to Rhode Island. He worked as a queen breeder for Charles Cornell, former president of Rhode Island Beekeepers' Association. Mr. Pike is very much interested in photography and has made several excellent beekeeping motion pictures, one for the Geographical Magazine and is now completing his motion picture on "Beekeeping in Vermont," and is working on another one on "Queen Rearing". Mr. Pike has one of the most complete honey extracting plants in the state. He is now 77 years young and for him life is just beginning.

The 1958 officers of **North Georgia Beekeepers' Association** are: Frank M. Cantrell, Atlanta, President; W. H. McCain, Atlanta, Vice President; Wm. S. Sharp, Decatur, Treasurer; and Mrs. Wm. S. Sharp, 608 Third Avenue, Decatur, Georgia, Corres. Secretary.

The spring meeting of the **Ohio State Beekeepers' Association** will be held March 26 in the B & Z Building, Room 100, Ohio State University, Columbus, Ohio.

9 A.M. Introductory Remarks — H. J. Vandenberg, President
Echoes from the Federation Meeting —H. R. Swisher, et al.
10 A.M. Beekeeping as Observed by the Inspector. —S. E. Bailey, et al.
11 A.M. Discussion:
How Beekeepers Can Stimulate and Maintain Interest with the Youth. —John Buchanan, M. J. Deyell, et al.
1 P.M. Trials and Tribulations of the Amateur Beekeeper—A. R. Dean, Pa.
2 P.M. Management of Hybrid Queens —W. E. Dunham, E. W. Long, et al.
3 P.M. Questions and Answers by the Experts. —Leader: Chas. A. Reese.

Second Free South Texas Bee School. The success of the first beekeeping school held last June has prompted the **South Texas Beekeeping Hobbyists** and The A. I. Root Company of Texas to co-sponsor another free beekeeping school with a special program designed for beginner beekeepers. The beekeeping school will be held from 1:30 to 5 p.m., Saturday, March 29th at The A. I. Root Company of Texas, 537 South Flores Street, San Antonio, Texas.

Talks and demonstrations will cover the following subjects:

1. Installing package bees
2. Examination and handling of an established colony
3. What a beginner should know about South Texas honey plants
4. Spring Management
5. Summer Management
   a. swarming and its control
   b. supering and removing crop
   c. extracting and packing
6. Fall Management

Come and bring your friends. In case of rain the school will be postponed until the following week, April 5th at the same time.

The next meeting of the **Norfolk County Beekeepers' Association (Mass.)** will be held March 3, 1958 at the Norfolk County Agricultural School, Walpole, Mass., at 7:30 p.m. "The Miracle of Spring"—1958 Flower Show, March 9-15, Mechanics Bldg., Boston, Mass., will be well attended, due to the beekeepers' interest in flowers and the bee booth there.—Edith L. Colpitts, Corresponding Secretary.

The **Midwestern Beekeepers' Association** will meet at the I.O.O.F. Hall, 812 Westport Road, Kansas City, Mo. on March 9, 1958 at 2:30 P.M. Mr. Roger B. Boren, Assistant State Apiarist, Kansas, is scheduled to speak on "Bee Diseases". Everybody welcome. —Carroll L. Barrett, Sec.

The Honey Industry Council of America, which serves as an overall co-ordinating body for the Industry, elected new officers for the year at the National meeting held at Columbus, January 31st. The four delegates from the American Beekeeping Federation elected by the Federation to serve on the Council are: S. J. Watkins, Lawrence Budge, Millard V. Coggshall, and Charles Miller. The **American Bee Breeders' Association** is represented by Leslie H. Little; the **Bee Industry Association of Supply Manufacturers** by Robert Dadant and Baxter Woodman; with Roy Grout and John Root as alternates: The **National Honey Packers and Dealers' Associations'** representatives are Roland C. Stone and R. F. Remer. Roland Stone of California was re-elected Chairman of the Council for the coming year; Millard Coggshall of Florida, Vice Chairman and Leslie Little of Tennessee to continue as Secretary-Tresurer.

The **Southern District** of Wisconsin beekeepers will hold a meeting on March 22 in the New Rock County Court House, Janesville, Wisconsin. A cordial invitation to all.

At our recent convention of the **Empire State Honey Producers' Association,** that was held in Syracuse, New York, December 6 and 7, 1957, the following officers were elected: President, Howard B. Webb, Port Crane, N. Y.; 1st Vice Pres., Everett Clark, New Hartford, N. Y.; 2nd Vice Pres., Raymond Churchill, Watertown, N. Y.; 3rd Vice Pres., Harry Gable, Romulus, N. Y.; Sec.-Treas., Mary Cary Trippe, Syracuse, N. Y.; Field Secretaries, Dr. E. J. Dyce, and Dr. Roger Morse, Ithaca, N. Y. —Mary Cary Trippe, Sec.-Treas.

Death of Maude A. Snyder — The history of American Beekeeping reveals the names of many a wife of a beekeeper who at the death of her husband has taken over the business and made a great success of it. One of the most notable of these is Mrs. Maude A. Snyder, of Cherry Valley, N. Y. Mr. Snyder died in 1925, when his son was but eight years old. His wife took over the management of the bees and kept the business going successfully all through the years that her son, Harley, was in school. She was a regular attendant at the Empire State meetings. She was not only a good listener but exerted a good influence on all others. Mrs. Snyder died peacefully in her sleep on February 1.

From Mexico's president, Ruiz Cortines' 5th annual address on the state of the Union in early September I gleaned this: The Federal Government is investing $1,200,000.00 pesos in a plant for the treatment of bee honey. The plant will go into operation this year. There are 1,300,000 bee hives valued at 78 million pesos; produced 52 million kilos (117,520,000 pounds) worth 156 million pesos and 2,600,000

XUM

kilos of wax (4,526,000 pounds) worth 20 million pesos, total $177 million pesos. There is some very excellent honey produced here, but the State of Yucatan is probably the heaviest producer. Retail prices run from 10 to 20 cents per pound. We can buy it for about half or a third that price from the producers.—Wesley C. Foster.

The **Apicultural Society of Rhode Island** will hold its regular monthly meeting on April 19 at the YMCA, Westerly, R. I. at 10 a.m. A special speaking program is being arranged, motion pictures, and a display of beekeeping equipment. We especially extend a cordial invitation to beekeepers in the Connecticut area adjacent to the Rhode Island border to attend this meeting. A note of appreciation is extended to the Sioux Bee Association, R. B. Willson Company, A. G. Woodman Company, American Bee Journal, and Gleanings in Bee Culture for the support given the Society in the honey promotional activities and distribution of beekeeping training materials distributed during the Rhode Island Farm and Home Show. 100 Old Favorite Recipe Books were awarded on a drawing basis, samples of honey were distributed to housewives during the show. A special Honey Cookery Awards Program was held with participation by beekeepers' families and the Northern, Southern and Eastern 4-H Groups.—Wulf Kroekel, Corres. Sec.

Conditions in South Georgia and North Florida, February 15, 1958—The weather here during January and February is the worst in 50 years. The mercury has been down to 20 degrees and below four times in the past six weeks. It dropped to 16 in south central Florida. Bees have not been able to work over five days in the past two months. Redbud maple, wild currant, huckleberry, titi and all other early honey flows have been a total failure to date. Three inches of snow fell February 13. Colonies are weaker in stores and bees than normal. Old bees have died off and brood rearing has been very limited. Bees will not be strong enough to make a normal spring crop of orange, tupelo, or gallberry in March and April. Queen rearing and package shipping will be delayed two to three weeks. The cold weather seems to affect Louisiana, Alabama, Georgia, and Florida. Indications are there will be a scarscity of early package bees and queens and a less than normal spring crop of honey made in Georgia and Florida. — From A. V. Dowling Valdosta, Georgia.

HONEY FOR BREAKFAST WEEK April 6-12

ONCE AGAIN we take pride in announcing Honey for Breakfast Week, April 6-12 celebrated each year at Easter time.

Here is a list of the leaflets, posters, and display material that the American Honey Institute, 114 North Carroll St., Madison 3, Wisconsin has printed for this event.

Check it and order right now.

LEAFLETS	per 100
HONEY FOR BREAKFAST	$1.25
HONEY TO START THE DAY RIGHT	1.25
HONEY AND CEREALS	1.25
TWO SWEET GIFTS	1.25

POSTERS	per 12
ENJOY HONEY ON CEREAL	$1.00
HONEY ON GRAPEFRUIT	1.00
HONEY FOR BREAKFAST STARTS THE DAY RIGHT	1.00

STREAMERS	per 100
....GEE, IT'S HONEY FOR BREAKFAST	$1.00
IT'S A TASTE THRILL ON GRAPEFRUIT	1.00

CALENDARS	per 100
Pocket Size, 1958	$1.00

Show Your Decal!

HELP MAKE the association known to beekeepers in the state. For that purpose there is enclosed a decal for each member to put on the inside of his auto glass. Soak the decal for about 30 seconds so that it can be applied easy. Squeeze it off after the backing is peeled off. The costs of the decal amount to 30 cents each, so don't waste it. Help spread the good work of the association. — Taken from Kentucky Bee Line for December, 1957. Address Box 43, Louisville 5, Ky.

What Organization Can Match This?

"The Beekeepers' Club holds its meetings every Wednesday of every week from Sept. 14 to March 24. Is there another place in Scotland or any in the world that can equal this enthusiasm?"—Scottish Beekeeper — Taken from Beekeeper's News.

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month, preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. THE HUBBARD APIARIES, ONSTED MICHIGAN.

IOWA honey, one can or truck loads. RUSSELL D. SMALLEY, BEAVER, IOWA.

CLOVER extracted honey in sixties. ABRAM BRUBAKER, RT. 2, LANCASTER, PA.

MICHIGAN'S FINEST WHITE CLOVER HONEY. New sixties. Fully ripened. You'll be pleased. Sample 20c. JOHN McColl, TECUMSEH, MICH.

Large lots, quality honey, 60's and drums. NORTH CENTRAL HONEY PRODUCERS' LEAGUE, BOX 211, BELLEVILLE, WISCONSIN.

NEW YORK STATE light honey in new 60's, also some light amber. RULISON HONEY FARMS, R.D. 2, AMSTERDAM, N. Y.

68,000 pounds white clover honey. Our finest. In open head drums. Located, ARTESIAN, SOUTH DAKOTA. Write or call E. P. BARKMAN,, HILLSBORO, KANSAS.

White to water white honey in new sixties, truck or car load lots. PLATTE VALLEY APIARIES, LEXINGTON, NEBR.

AM BOOKING orders new crop gallberry tupelo extracted and chunk comb. Will pack to your specifications. A. V. DOWLING, VALDOSTA, GA.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—All grades of extracted honey. Send sample and price. DEER CREEK HONEY FARMS, LONDON, OHIO.

CASH FOR BEESWAX. Write as to quantity and we will quote price. MEUNCH-KREUZER CANDLE CO., INC., SYRACUSE, N. Y.

WANTED—White extracted or comb honey. Send sample. MILLERSPORT HONEY CO., MILLERSPORT, OHIO.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. THE A. I. ROOT COMPANY, MEDINA, OHIO; COUNCIL BLUFFS, IOWA; SAN ANTONIO, TEXAS.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. WALTER T. KELLEY CO., CLARKSON, KY.

WANTED — Light amber clover, fall flowers, buckwheat and white clover. Send sample and lowest price. CLOVERDALE HONEY CO., FREDONIA, N. Y.

WANTED—Honey in 60 pound cans, also beeswax, any quantity. L. E. ALLEN, TIPTON, MICH.

CASH for Amber and Buckwheat Honey. Best cash price for wax. HUBBARD, ONSTED, MICH.

WANTED—White extracted and buckwheat. Send sample and price. TRAPHAGEN, HUNTER, N. Y.

WANTED—Buckwheat and light amber honey. EASTERN FOOD PRODUCTS, 421 BEDFORD AVE., BROOKLYN, N. Y.

WANTED, chunk comb and extracted honey. Mail sample and price. STOLLER HONEY FARMS, LATTY, OHIO.

WANTED—All grades of extracted honey. Carloads or less. Send sample and price wanted to HONEYMOON PRODUCTS CO., 39 E. HENRY ST., RIVER ROUGE 18, MICH.

We render cappings, old combs and buy your beeswax. Shipping tags sent on request.—M. R. CARY CORP., 219 WASHINGTON SQUARE, SYRACUSE 8, N. Y.

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WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. THE HUBBARD APIARIES, Manufacturers of Beekeepers' Supplies and Comb Foundation, ONSTED, MICHIGAN.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

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Makers of ROBINSON plain and WAVY-WIRED foundation. Also render and buy beeswax. Order direct from manufacturer and save dealer costs. Shipping tags free. WAX WORKERS, INC., ITHACA, N. Y.

15,000 5-gallon honey cans used, priced for quick sale, 15c each. SPRINGBLOOM FARMS, C. HENDRICKS, 5206 N. 124th ST., BUTLER, WIS., BOX 461, PHONE MILWAUKEE HO 6-2221.

APIARY WITH ESTABLISHED CLOVER FARM consisting of 1000 supers fully modern extracting equipment. Average honey yield 130 pounds per hive. Farm consists of 158 acres, 75 acres in alsike and 75 acres in red clover; average seed yield 400 pounds per acre.. Full set of power farm machinery, living quarters for two families. Owner wishes to retire. $24,000 cash deal preferred. ERNEST SCHROEN, WESTLOCK, ALBERTA, CANADA.

SELLING: New and used 10-frame equipment. AARON WENDT, HUTCHINSON, MINN.

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FOR SALE—80 brand new bee hives made of Oregon fir, lock corner, nailed and painted. Bottom board, deep lower super and frames, shallow super and frames, top cover board, cover with aluminum. Will deliver 10 or more within 50 miles of Mansfield. BLUST CHURN CO., 789 S. DIAMOND ST., MANSFIELD, OHIO.

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Carloads and less than carloads. Mail sample and best prices in all grades.
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Italians		Caucasians	
PKGS. W/Q.	1-24	25-99	100 up
2-lb.	$4.30	$4.25	$4.00
3-lb.	5.40	5.30	5.10
Nice large qns.	1.25	1.15	1.05

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CARNIOLAN and CAUCASIAN Bees for 1958. Booking queens. Each, $1.00; 2-pound bees with queen. $4.00. 3-pound bees with queen, $5.00. LEWIS & TILLERY BEE CO., RT. 3, BOX 251, GREENVILLE, ALABAMA.

FOR SALE—3 and 4-frame nuclei by the truck load, queenless packages and frames of brood and bees. WALKER APIARIES, PHARR, TEXAS.

THE NORMA ROY Apiary Italian bees, 3 pound with queen, $4.15; 4 pound with queen, $4.90. Book your order now. No down payment. Live delivery and a health certificate with shipment. NORMA E. ROY & SON, HESSMER, LA.

SEND OR BRING cages. Will supply bees for 70c pound. Can supply queens or new cages. Write for information. A. V. DOWLING, VALDOSTA, GA.

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CARNIOLAN and CAUCASIAN queens, $1.00 each. ROY WADDELL, R. 3, WOODRUFF, S. C.

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WANTED—Man to operate retail sales and parcel post. Some knowledge of bees needed. State age, experience, family status, and salary range desired. THE A. I. ROOT CO., MEDINA, OHIO.

WANTED—Two men to work in our apiaries. Top wages. 5-day work week. Other advantages. SCHULTZ HONEY FARMS, RIPON, WIS.

WANTED—Two or more experienced bee-men for season. Good wages and opportunity for right men. Give experience and references. Bees located in Arizona, Idaho, and North Dakota. POWERS APIARIES, PARMA, IDAHO.

BEEKEEPER or HELPER in Florida and Ohio. Season or steady.—Box 308, GLEANINGS, MEDINA, O.

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WANTED

WANTED—50 colonies of bees late March, early April. For sale, once used 60 pound cans, 25c. FRED RUSSELL, CHELMSFORD, MASS.

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HONEY PLANTS—Ask for illustrated 1958 catalog. One packet seed each 6 unusual honey plants, $1.00; Vitex negundo, one year plants, 4 for $2.00; dozen, $5.00; Pellett Clover root divisions, 25, $2.00; 100, $5.00; postpaid. PELLETT GARDENS, ATLANTIC, IOWA.

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BEES REMOVED from house or tree or hive without touching either house or bees. Bees will then move honey into hive. Save property, honey, and bees with my method. Send $2.00 for details. Satisfaction guaranteed. GEORGE HAWKINS, RT. 1, LAWSON, MO.

ROYAL JELLY box of 30 capsules with 50 MM. Royal Jelly per capsule, $4.35 to beekeepers. Retails for $8.50; box of 1000, in bulk, $135.00. Postage paid in the U.S. PRAIRIE VIEW HONEY CO., 12303 12th ST., DETROIT 6, MICH.

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ROYAL JELLY box of 30 capsules 25 mg., each, $5.00; 10 boxes, $25.00; 50 mg. box of 30 capsules $8.50; 10 boxes, $42.50. Prepaid in U.S. SUNNYBROOK HONEY FARMS, 13600 LIVERNOIS, DETROIT 38, MICHIGAN.

FOR ROYAL JELLY, quality and quantity, contact OVERBEY APIARIES, BUNKIE, LOUISIANA.

WANTED: To buy bee outfits and bee equipment in any area. We have buyers for outfits, regardless of size. SIOUX HONEY ASSOCIATION, Supply Dept., SIOUX CITY, IOWA.

HOW MUCH is a swarm worth? At least $15.00. How much honey do the drones in one colony eat in one summer? At least 10 pounds and possibly 20. Can you afford to let swarms escape? Of course not, nor can you afford to feed drones. OBSERVATION Drone and Queen Traps save swarms and eliminate drones. $3.95 post paid. Mighty cheap insurance. PATENT SERVICE ASSOCIATES. HAVERHILL, N. H.

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$2500 will buy a half interest in 9 acres of Fruit & Bee Culture Bird Refuge. Inquire P.O. BOX 207, ARNDTS PLACE, PLYMOUTH, WIS.

ROYAL JELLY—If you are a producer or a buyer, we would be glad to hear from you. This Association is for the beekeepers by the beekeepers also a convenience to the buyers. SOUTHEASTERN ROYAL JELLY ASSOCIATION, OPP, Ala., Branch Office, RUSKIN, FLA.

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Number of Queens	Regular	Midnite
1 to 24	$1.40	$1.70
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Packages with Italian Queens

Quantity	1-24	25-99	100 up
2 lb.	$4.50	$4.25	$4.00
3 lb.	5.70	5.45	5.20
4 lb.	6.90	6.65	6.40
5 lb.	8.10	7.85	7.60
Extra Queens Italian	1.45	1.35	1.25

Queenless packages —deduct $1.00 per package

Tested Queens — add $1.00 per package or queen.

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Quantity	1-24	25-99	100 up
2 lb.	$4.80	$4.55	$4.30
3 lb.	6.00	5.75	5.50
4 lb.	7.20	6.95	6.70
5 lb.	8.40	8.15	7.90
Extra Queens Starline or Midnite	1.75	1.65	1.55

Terms: Small orders cash, large orders $1.00 deposit per package and balance two weeks prior to shipping date.

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30 or More,	Each	3.85	4.85	5.85	6.80

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Shipped anywhere in United States and Canada

1958 PRICES FOB HAMPTON, SOUTH CAROLINA

	Qns. ea.	2-lb. & Qn.	3-lb. & Qn.	4-lb. & Qn.	5-lb. & Qn.
1-24 Packages	$1.40	$4.25	$5.25	$6.25	$7.25
25-99 "	1.30	4.00	5.00	6.00	7.00
100 up "	1.20	3.75	4.75	5.75	6.75

(For Queenless Packages deduct Price of Queen)

Queens clipped and painted if desired. Guaranteed safe arrival.

Health Certificate with each shipment. Shipper rated in Dun & Bradstreet.

TERMS: One third with order, balance 15 days before shipment.

H. C. BRUNSON **P.O. Box 188** **HAMPTON, S. C.**
Phones: 2151 5303

PACKAGE BEES — QUEENS
Three- banded Italian Stock
for
Requeening - rebuilding - increasing. Best bees obtainable from our 30 years of experience. You get fast service and a square deal.
Queens, ...$1.60 each
2-lb. pkg. with queen 4.50
Quantity Discounts
COFFEY APIARIES
WHITSETT, TEXAS
Tel. 7-2525 through Campbellton

HARPER'S
Famous High Quality
Italian Queens & Package Bees
2-lb. package w/queen — $4.00
3-lb. package w/queen — 5.00
Queens by air mail — — 1.25
Have a few more open dates for April.
CARLUS T. HARPER
New Brockton, Ala.

QUALITY BRED ITALIANS
Jan., Feb., and March, $1.45 ea.
April and May ..... 1.00 ea.
June through Oct., ... .75 ea.
Package Bees ready in April
Two pound .....(f.o.b.) $4.15
Three pound .....(f.o.b.) 4.90
We prefer to send package bees by Parcel Post so please inclose postage with order. All queens selected from our Northern Apiaries for Hardiness and Honey production All queens shipped Air Mail.
Walter D. Leverette Apiaries
Box 364, FORT PIERCE, FLORIDA

HOLLOPETER'S ITALIAN QUEENS
In Season
WHITE PINE BEE FARMS Rockton, Penna.

ITALIAN QUEENS
Top quality superior strain by 46 years experienced queen breeding.
— Your Satisfaction Always Here —
$1.00 ea. 12 or more, 90c ea.
MERRILL APIARIES
302 Beatrice St. Greenville, S. C.

PACKAGE BEES QUEENS

"ITALIANS"

Wilbanks offers you tested stock proven for honey producing ability and easy handling. Satisfied customers through the years assure you of the greatest value here.

	1-9	10-49	50-up
2-lb. pkg. with young laying queen	$4.24	$4.00	$3.75
3-lb. pkg. with young laying queen	5.35	5.10	4.85
4-lb. pkg. with young laying queen	6.45	6.10	5.85
Extra Queens	1.40	1.30	1.20

Shipments by Express, Parcel Post, or your Truck
Quality Does Not Cost — It Pays

THE WILBANKS APIARIES **Claxton, Georgia**

Plan Early to Buy Quality Package Bees & Queens
Dadant Starline Hybrid Queens & Garon's 3-Banded Italians

QUEENS			PACKAGES WITH QUEENS		
	Starlines —	Italians	2-lbs.	3-lbs.	4-lbs.
1-24 —	$1.70 —	$1.30	$4.05	$5.05	$6.05
25-99 —	1.60 —	1.25	3.95	4.95	5.95
100-up —	1.50 —	1.20	3.85	4.85	5.85

For Dadant Starline Queens, add 30c extra per package
Queens clipped, marked and air mailed at no extra charges.

Reg. U. S. Pat. Off.

GARON BEE CO. **Donaldsonville, La.**

Caucasian Queens for 1958

1 to 24 ..... $1.40
25 to 99 ..... 1.30
100 & up 1.20

For Midnite Caucasian Hybrid Queens add 30 cents per queen to above prices.

NOTICE: We are sold out of package bees.

HOWARD WEAVER & SONS
Navasota, Texas

NORMAN BROS.
Bright 3-Banded Italian BEES & QUEENS

For fine quality bees and dependable service, KEEP US IN MIND. We rank with the best in quality and service. Full weight, safe arrival, health certificate and satisfaction. In U.S.A. and Canada.
37 Years as Shippers

— PRICES —	1 to 11	12 to 100
2-lb. pkg. with queen	$4.25	$4.00
3-lb. pkg. with queen	5.25	5.00
Untested queens	1.10	1.00
Tested queens	2.10	2.00

Package bees F.O.B. Express. Shipped parcel post by request. Add postage.

NORMAN BROS. APIARIES RAMER, ALA.

When you think of BEES and QUEENS

Think of —

Merrill Bee Co.

P.O. Box 115
State Line, Miss.

Our 100% SATISFACTION has been good for 46 years. Let us prove it.

Pkgs. with Queens

2-lb. pkg. ....$3.50 any number
3-lb. pkg. .... 4.50 any number
Untested qns. 1.00 any number
Tested qns. .. 1.50 any number

Terms $1.00 per package with orders, balance before shipments.

U. S. Savings Bonds come in all sizes .....and grow bigger every year.

XUM

SAVE 1/2 ON
Transportation Cost

Order 3-lb. package bees with 2 Queens each; divide on arrival.

This practice has proved successful in many different areas for several years.

3-lb. pkg. bees with 2 queens each, $5.75.
Ship. Weight 9 lb. ea.

2-lb. 1 Qn. ea. $3.75.
Ship. Weight 8 lb. ea.
3-lb. 1 Qn. ea. $4.75.
Ship. Weight 9 lb. ea.

Will ship express, parcel post, or your truck.

ITALIAN
Package Bees & Queens

John S. Shackelford
Rio Oso, Calif.
Ph.: Wheatland, Calif. NEptune 3-2392

ITALIAN BEES & QUEENS

2-lb. pkg. w/q, $3.45 3-lb. pkg. w/q, $4.15
4-lb. pkg. w/q, 5.00 5-lb. pkg. w/q, 6.00
Extra queens 1.05
Live delivery guaranteed and health certificate with each shipment. 10% books your order.

Gaspard Bee Co. Hessmer, La.

"The Australian Bee Journal"
Published by the Victorian Apiarists' Association at the beginning of each month. Subscription 10/-per annum plus 2/6 postage to overseas countries.
Box 167, Rainbow, Victoria, Australia

U. S. Savings Bonds come in all sizes . . . . . and grow bigger every year.

DRONES

(Continued from page 145)

doesn't need any of my defense. As we can be so easily led into this untenable dead-end alley, philosophy suggests that facts and words—everyday words—be checked and doubly checked.

Finally, the love of wisdom evokes a possible reason for the number of drones around an apiary—a reason beyond that for which the drone exists as an individual—a reason quite coincident with one of our own practices when vital issues are important.

During the last three wars in which we were directly concerned, safe delivery of men and material across the seas was assured by numbers. Homo sapiens sent many ships in convoy to accompany his vital cargoes.

Consider now the single virgin queen on her wedding flight. Aerial enemies attracted by her size and motion, and by her loudly droning escorts, could make this vital flight of hers one of disaster instead of its evident success. But in a convoy of drones wheeling in swift circles around her, and trailing behind, we find that this hazardous flight into space, lasting minutes to hours, usually ends with "mission accomplished". The precious vehicle and cargo, in convoy, goes and returns safely.

Young vigorous males freshly provided in the spring for the new generating year; drone dominance in the transmission of characteristics; the benefits of cross-breeding stock, and the choice of the single ablest among many, are but further considerations of the virtue of numbers in this context.

With this data to consider can we continue to drub the drones? Are they indeed dull and lazy idlers? Rather they are a very special crowd of individuals poised in prime health and ready reserve to assure continuity of a vital stream in the wonderful scheme of Creation—vital to the well-being of the bees in their world, and vital to our own well-being too.

QUALITY ITALIAN
Package Bees & Queens
3-lb. pkg. bees, ...$4.75
Queens (each) 1.00
Barricklow Bros., Doerun, Ga.

JENSEN'S

Package Bees and Queens

Packages with Dadant "Starline" Hybrid Queens	1-24	25-99	100-up	Packages with Jensen's "Magnolia State" Italian Queens	1-24	25-99	100-up
2 Lb.	$4.80	$4.55	$4.30		$4.50	$4.25	$4.00
3 Lb.	5.90	5.65	5.40		5.60	5.35	5.10
4 Lb.	7.00	6.75	6.50		6.70	6.45	6.20
Starline —QUEENS— Magnolia							
$1.75	$1.65	$1.55			$1.45	$1.35	$1.25

Reg. U. S. Pat. Off.

Clipped and Marked Free — Air Mail Postage Paid

JENSEN'S APIARIES — MACON, MISS. — U.S.A.

BETTER-BRED QUEENS — **Three-Banded Italians**

To date the South has had the coldest winter in years. Please book early as there is sure to be a shortage of bees this spring.

	Queens	2-lb. w/q	3-lb. w/q
1 to 24	$1.40	$4.25	$5.35
25 to 100	1.15	3.75	4.75

CALVERT APIARIES — Calvert, Ala.

QUEENS — **PACKAGE BEES** — **QUEENS**

Two Extra Good Strains. — — — Real Good Workers and Very Gentle

2-lb. with queen ..... $4.50 — 3-lb. with queen $5.70

Over 25 packages, deduct 25c per package.

Untested queens, 1 to 25 ..... $1.45 25 to 100 ..... $1.35 100 up $1.25

Dadant's Starline Hybrids Best of Honey Producers and Very Gentle

Add 30c to each queen or package.

ALAMANCE BEE COMPANY, Geo. E. Curtis & Sons, La Belle, Fla.

QUEENS only QUEENS

A. Vallotton

1442 So. Juniper
Escondido, Calif.

The best obtainable because we use the most modern methods and equipment. Breeding queens really selected from all over the States. We have the ideal location for climatic conditions required for highest quality queens.

1-100 ..... $1.25
100 up 1.10

Airmail — All Guarantees

Choice Italian Bees & Queens

1958 Prices

Pkgs. & Qns.	1-24	24-49	50 & Over
2 lb.	$4.15	$3.95	$3.75
3 lb.	5.05	4.85	4.75
3 lb & 2 qns.	6.05	5.85	5.75
Qns.	1.50	1.40	1.25

Pkgs. are priced F.O.B. Live Oak
Queens Prepaid Airmail
Shipping starts April 1

No deposit required for booking Payment to be made before shipping date or when bees are delivered to customers truck.

Eugene Walker

Rt. 2, Box 982
Live Oak, Calif.

Protect Your Future. Buy Your Savings Bonds Now.

PACKAGE BEES "GULF BREEZE" ITALIAN QUEENS

We have some dates open up to April 15th for packages. Lots of queens available at all times.

PRICES:

QUANTITY	QUEENS	2-lb. Pkgs. W/Q	3-lb. Pkgs. W/Q	4-lb. Pkgs. W/Q
1- 9	$1.40	$4.35	$5.45	$6.60
10-49	1.30	4.10	5.20	6.30
50-up	1.20	3.85	4.95	6.00

BESSONET BEE COMPANY DONALDSONVILLE, LA.

QUEENS **PACKAGES**

Rearing Italian queens and bees of reliable quality is our only business.

	1-24	25-99	100-up
2-lb. pkg. with queen	$4.50	$4.25	$4.00
3-lb. pkg. with queen	5.70	5.45	5.20
Queens	1.45	1.35	1.25

Deduct $1.00 on queenless packages Tested queens, $2.50

W. E. PLANT **Hattiesburg, Miss.**

PACKAGE BEES ITALIAN QUEENS

Good Producers — Gentle

You will like them. Good service.

A. R. BANTA **Los Molinos, Calif.**

FLOWERS Quality ITALIANS

OUR BEES STAND TEST FOR HONEY GATHERERS: GENTLE: PROLIFIC: Bred from hives making 300 pounds or over honey. FUMIDIL-FED grafting and queen yards. HEALTH CERTIFICATES with each shipment. We are prepared to fill all orders promptly. COME AFTER YOUR BEES or shipped express or P.P. PROMPT LIVE DELIVERY GUARANTEED. $1.00 deposit per package. Balance two weeks prior to shipping date. ORDER NOW FOR CHOICE SHIPPING DATES: PRODUCERS OF ROYAL JELLY ALSO. WRITE US ON LARGE ORDERS. WE CAN HELP YOU.

All packages with select young laying queens F. O. B. Jesup.

2-lb. pkg. w/q	$3.75
3-lb. pkg. w/q	4.75
4-lb. pkg. w/q	5.75
5-lb. pkg. w/q	6.75
For Queenless Pkgs. deduct price of Queen	
Tested Queens	2.00
Select Queens	1.00

1 or 1000 airmail

FLOWERS BEE COMPANY

Jesup, Georgia, U.S.A.

PHONE: JUNO 4-2830 or 4-2837

CANADA'S

National Monthly Magazine for Beekeepers

Canadian Bee Journal

Streetsville, Ontario, Canada

HONEY PRICE SUPPORT PROGRAM

(Continued from page 170)

away from a competitor, it doesn't increase honey consumption the way the same money would if spent cooperatively, or in individual promotion. Nor do some of the actions reported from the marketing front improve the entente cordiale between packers, or between producers and dealers. Gentlemen, from what we hear from the cross-roads of the industry, the doldrums may be sufficiently close so that it behooves you to get your soundest citizens, producers and packers alike, to sit down together, and with "togetherness" as a motto rather than just the increasing of sales and outlets regardless of ethics and feelings, work for the betterment of the industry, not just the betterment of firms or individuals. This is emphasizing what Joaquin and Woodrow have already said. I hope that you will really do this, and that the results will be evident throughout the coming year. If this is done, perhaps we will see one big, happier family at the Tampa meeting next year. My best wishes to you all.

BEEKEEPING IN HOLLAND

(Continued from page 154)

build up again for the heather flow. Heather depends largely on rain in June and July. When it does not rain at all or a very little rain, better stay home with your hives, because if you go, better take your sugar bag along to feed the bees.

When heather is good we make some comb honey as heather honey is difficult to extract. After this heather we have in some parts of the country a short flow from sea aster.

When we are finished with going back and forth extracting honey, we inspect our hives from top to bottom, look at the queen, the frames, combs, and everything that should be done to carry the colony through the winter months. We feed our sugar syrup one part water, two parts sugar, at least 15 kilograms for each hive. We put some packing between the double-walled hives and some on top between inner cover and roof. Reducing flight entrances we bring a ring of tarpaper around the lower part of our straw skeps to keep out mice and when we have everything done, we can look back at the past season and tell each other how good or mostly how bad it was. But good or bad, we beekeepers start always again the new season with new pleasure and new spirit because we cannot live without our bees.

BRITISH BEE JOURNAL
The Only FORTNIGHTLY Bee Journal in the World

Subscription price £1.1.0 per annum, post free, six months 11/6d. post free and three months 6/3d. post free.

Keep up to Date in Beekeeping by taking out a subscription now through our agents:

Gleanings in Bee Culture
Medina, Ohio

Just Thirty Days---

Thirty days from the time you read this; Package Bees will be moving at a rapid rate. Will your order be included? Many dates have been filled now, Feb. 10th. Do Not delay.

We spare no expense to give you the Best. Stock has been selected for production. By popular demand antibiotics are being used for healthier Bees and Queens.

w/reg. qn.	2 lb. pkgs.	3 lb. pkgs.
1-25	$4.75 ea.	$5.75 ea.
26-99	4.50 ea.	5.50 ea.
100-up	4.25 ea.	5.25 ea.

For Island Hybrid Queens add 30c each.

"They Produce"

ROSSMAN APIARIES
P.O. Box 133 Moultrie, Ga.

Carniolans & Caucasians

Best assurance for a good honey crop is young laying Carniolan or Caucasian queens. They are the answer for gentleness and production.

Queens, 1 to 49, each; $1.40
50 to 100, $1.30; 100 up, $1.20.

All air mailed. Booking now for early March. No package bees this season.

W. D. Reams
Box 87, Labelle, Fla.

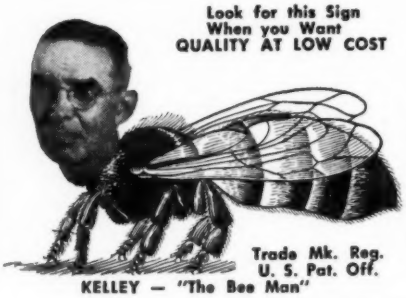
ITALIANS
Queens, $1.25 Bees, $1.00 Cages, 50c
Royal Jelly by contract
Sioux Member 905
NASSAU BEE CO. HILLIARD, FLA.

CAUCASIAN OR ITALIAN PACKAGE BEES AND QUEENS
Proven for honey production, easy handling, health certificate, live arrival guaranteed and top quality.

PRICES

Lots of	Queens	2 lb. & Q	3 lb. & Q	4 lb. & Q	5 lb. & Q
1 - 24	$1.50	$4.25	$5.35	$6.45	$7.55
25 - 99	1.40	4.00	5.05	6.10	7.15
100 - 499	1.30	3.75	4.75	5.75	6.75

FARRIS HOMAN SHANNON, MISS.



KELLEY — "The Bee Man"

KELLEY'S BEES

Improved three-banded Italian bees and queens direct from our own farm. Shipments start April 1st, express or parcel post shipment. Thousands of extra queens.

	Queens	2-lb. w/q	3-lb. w/q
1-24	$1.25	$4.25	$5.25
25-99	1.20	4.00	5.00
100-up	1.15	3.75	4.75

THE WALTER T. KELLEY CO.

Clarkson, Ky.

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